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BLUE BOOK

1946

for manufacturers and distributors of

SOAPS
INSECTICIDES
DISINFECTANTS
CHEMICAL SPECIALTIES
SANITARY SUPPLIES
POLISHES
CLEANERS

Issued Annually by the Publishers of

SOAP AND SANITARY CHEMICALS

NEW YORK

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AMYL CINNAMIC ALDEHYDE
AMYL SALICYLATE
ANISIC ALCOHOL
ANISIC ALDEHYDE (Aubepine)
ANISYL ACETATE
ASTROTONE* BR
BENZOPHENONE
BENZYL ACETATE
BENZYL ALCOHOL
BENZYL BENZOATE
BENZYL PROPIONATE
BENZYL SALICYLATE
BERGAMOT ARTIFICIAL
CAMPHENE
CEDRENE
CINNAMIC ALCOHOL
CINNAMIC ALDEHYDE
CITRAL
CITRONELLOL
COUMARIN
CRYSTAROSE
CUMINIC ALDEHYDE
DIMETHYL ANTHRANILATE
DIMETHYL HYDROQUINONE
GERANIOL
GERANIUM ARTIFICIAL
GERANYL ACETATE
HEXYL SALICYLATE
HYACYLENE P AND S (Dimethyl Acetal of Phenyl Acetaldehyde)
HYDROXYCITRONELLAL
INDOLE
ISO AMYL BENZYL ETHER
ISO BORNEOL
ISOBORNYL ACETATE
ISOPULEGOL
ISOPULEGOL ACETATE
LAURYL ACETATE
LAVENDER SYNTHETIC
METHYL ACETOPHENONE
METHYL ANTHRANILATE
METHYL RHODIONE (Methyl Ionone)
MUGOL (Dimethyl Acetal of Hydroxycitronellal)
MUSK AMBRETTE
MUSK KETONE
MUSK XYLOL
NEROLIN
PARACRESOL METHYL ETHER
PHENYL ACETALDEHYDE
PHENYL PROPYL ALCOHOL
RHODINOL
RHODIONE (Ionone)
SALICYLALDEHYDE
TERPINEOL
TERPINOLENE
TERPINYL ACETATE
TERPINYL PROPIONATE
VIOLET KETONE
YARA YARA

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E. I. du Pont de Nemours & Co. (Inc.)
Organic Chemicals Department
Aromatics Section
Wilmington 98, Delaware

Branch Offices: Boston, Charlotte, Chicago, New York, Philadelphia, Providence, San Francisco.

BLUE BOOK
1946

AN ANNUAL BUYERS GUIDE, DIRECTORY AND REFERENCE VOLUME FOR MANUFACTURERS AND DISTRIBUTORS OF SOAPS, INSECTICIDES, DISINFECTANTS, POLISHES, CLEANERS AND ALLIED CHEMICAL SPECIALTIES

Eighteenth Edition

ISSUED ANNUALLY BY

MacNair-Dorland Company

254 West 31st Street New York, N. Y.

JUL 25 '46

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SRC668.1 SC7 1946 c.1

Many manufacturers of soaps, insecticides and disinfectants know that this label is the mark of quality. They know, too, that Orbis is recognized as a dependable source for perfume compounds, fine domestic and imported essential oils, aromatic chemicals and gums—whole or powdered.

Samples cheerfully furnished. Write us regarding your particular problem.

ORBIS ESSENTIAL OILS

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Oil Birch Sweet
Oil Cedarleaf
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Oil Cloves
Oil Eucalyptus
Oil Lemon
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Oil Limes
Oil Orange
Oil Peppermint
Oil Petitgrain
Oil Rosemary
Oil Sassafras Natural
Oil Spearmint
Oil Thyme—Red
Oil Thyme—White
Oil Wormseed

ORBIS AROMATIC CHEMICALS

Anethol
Carvacrol
Citral
Eucalyptol
Eugenol
Heliotropine Crystals
Isoeugenol
Phellandrene
Safrol
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For soap
para
fly sprays
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Tech

Foreword

THE BLUE BOOK is intended to serve not only as a source of dependable buying information for manufacturers, processors, and distributors of soaps and sanitary chemicals, but also as a convenient reference volume wherein may be found the answers to many questions that are commonly asked in and about the soap and sanitary chemical industry. Thus each issue of the BLUE BOOK carries the latest text of the various government orders affecting the industry, a resume of government specifications on soaps and sanitary chemicals, an index to all articles in issues of SOAP & SANITARY CHEMICALS over the past five years, reference material on testing methods, names of officers of associations in the industry, source material on soap sales, oil and fat consumption, glycerine recovery figures, etc.

Keep your current copy of the BLUE BOOK handy for ready reference! It contains many answers to questions that you will need to answer during the coming year.

As to the buyers' guide listings, we try as far as possible to make listings accurate and to confine them to **first-hand** suppliers exclusively. Every supplier on our lists has received a questionnaire asking him to check the items of which he is a producer or other **first-hand.** No recognized supplier has been deliberately overlooked or his listings omitted. It is inevitable, of course, that some mistakes have occurred, and if you find that your listings are incomplete, advise us at once so that this can be corrected.

A special explanatory note may be necessary on the listings of suppliers of finished products,—bulk and private brand soaps, and sanitary products. The BLUE BOOK listings are not intended to be **complete** lists of all manufacturers of such finished products, but are planned to be limited only to firms specializing in bulk and private brand sales. Wherever possible we have eliminated from the listings the names of manufacturers whose sole concern is the sale of such products direct to users.

THE PUBLISHERS.

May 30, 1946.

McCormick Insecticides

BEE BRAND INSECT SPRAY: An excellent household spray, highly effective against flies, mosquitoes and other household insects.

BEE BRAND INSECT POWDER: Pure, finely ground pyrethrum powder for household use.

BEE BRAND INSECTICIDAL SHAMPOO: Kills fleas and lice on dogs and cats—head lice and crab lice on humans.

BEE BRAND FLEA KILLER: Active cubé derivatives with a clay base, for control of fleas and lice on animals.

BEE BRAND FLEA & TICK KILLER: Contains 10% DDT; controls fleas and ticks on dogs, head lice and crab lice on humans.

BEE BRAND CANARY LICE POWDER: A specially compounded pyrethrum powder in puffer tins.

BEE BRAND ROACH KILLER: Highly effective for household and institutional use. To be used only as directed on package.

BEE BRAND DISINFECTANT: A highly efficient disinfectant, deodorant and fungicide. Phenol coefficient—8 F.D.A. method.

RED ARROW GARDEN SPRAY: A highly concentrated garden spray containing Pyrethrum, Rotenone and a special soap.

RED ARROW DUST: A highly effective dust containing ¾% Rotenone.

"SPECIAL" RED ARROW SPRAY: An extra-high-powered pyrethrum spray for Japanese Beetles, Leaf Tyers and Leaf Rollers.

WALL & SCREEN SPRAY: Contains 5% DDT in an odorless petroleum base; for control of flies, mosquitoes and bedbugs.

WATER DISPERSIBLE POWDER: Contains 50% DDT.

EMULSION CONCENTRATE: Contains 25% DDT; to be diluted with water.

AGRICULTURAL DUST: Contains 5% DDT.

HY-GRO (13-26-13): Soluble plant food and starter solution.

McCormick & Co., Inc.

BALTIMORE 2, MARYLAND

Buyers' Guide Section

LISTING SOURCES OF SUPPLY FOR RAW MATERIALS, MACHINERY AND EQUIPMENT BOUGHT BY MANUFACTURERS OF SOAPS AND SANITARY CHEMICALS.

●

Included in this section are the names of manufacturers of soaps and sanitary chemicals who sell private brand and bulk products to jobbers and distributors. It is not intended to list concerns who sell direct to consumers.

FIFTY YEARS a Leader

For more than fifty years the name of Chuit, Naef has been synonymous with the production of the highest quality group of synthetic and aromatic chemicals obtainable. Today, as then, this reputation continues unmatched. Throughout these years the Chuit, Naef organization has expanded its products to the point where they now rank as the most complete line of perfume raw materials available to the toilet goods, perfume extract and soap fields. As sole United States agents, let us convince you of the remarkable adaptability of our products to your line — *and our ability to deliver!*

Firmenich + Co.

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CHICAGO OFFICE: 612 N. MICHIGAN AVENUE

FIRMENICH

ABRASIVES AND FILLERS (Pumice, Silica, Feldspar, Bentonite, Clays, etc.)

American Colloid Co., 363 W. Superior St., Chicago
Aluminum Co. of America, Gulf Bldg., Pittsburgh, Pa.
Attapulgus Clay Co., 260 S. Broad St., Phila.
California Industrial Minerals Co., Friant, Calif.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 120 Wall St., N. Y.
K. F. Griffiths Co., 110 E. 42nd St., N. Y.
Goris & Co., 8124 S. Hoyne Ave., Chicago
Hammill & Gillespie, 225 Broadway, N. Y.
Johns-Manville Corp., 22 E. 40th St., N. Y.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
National Sawdust Co., 69 N. 6th St., Bklyn.
Nature Minerals Co., 108 W. 6th St., Los Angeles
Philadelphia Quartz Co., 125 S. 3rd St., Phila.
Pumice Corp. of America, Grants, N. M.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
Wm. R. Rogers, 44 Woodman St., Lynn, Mass.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Inc., 524 Railroad St., Joliet, Ill.
A. E. Starkie, 5461 W. Division St., Chicago
Tamms Silica Co., 229 N. La Salle St., Chicago
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker Clark & Daniels, 260 W. B'way, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

ACETONE *(see also Dealers)*

Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Cliffs-Dow Chemical Co., Marquette, Mich.
Commercial Solvents Corp., Terre Haute, Ind.
E. I. Du Pont de Nemours, Wilmington, Del.
Wm. S. Gray & Co., 342 Madison Ave., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Monsanto Chem. Co., St. Louis, 4
Shell Union Oil Corp., 100 Bush St., San Francisco
U. S. Industrial Chem., Inc., 60 E. 42nd St., N. Y.

ACIDS (Sulfuric, Muriatic, Nitric, Acetic, Etc.)

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Atlas Powder Co., Wilmington, Del.
Blockson Chem. Co., Joliet, Ill.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
General Chemical Co., 40 Rector St., N. Y.
Hercules Powder Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y. (Muriatic)
Innis, Speiden & Co., 117 Liberty St., N. Y.
Michigan Chem. Corp., St. Louis, Mich.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Oronite Chem. Co., Russ Bldg., San Francisco
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Rumford Chem. Wks., Rumford, R. I.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Wks., 141 W. Jackson Blvd., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

ACTIVATED CARBONS, (see Bleaching Earths, Decolorizing Carbons)

ADHESIVES

Arabol Mfg. Co., 110 E. 42nd St., N. Y.
Armour Glue Wks., 1355 W. 31st St., Chicago
Bakelite Corp., 30 E. 42 St., N. Y.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Casein Co. of America, Bainbridge, N. Y.
Darling & Co., 4201 S. Ashland, Chicago
Dennison Mfg. Co., Framingham, Mass.
Diamond Alkali Co., Standard Silicate Div., 535 Smithfield St., Pittsburgh
E. I. Du Pont de Nemours & Co., Wilmington, Del.
W. H. Gage Glue Co., 19 S. Main St., St. Louis
General Chemical Co., 40 Rector St., N. Y.
Hercules Powder Co, Wilmington, Del.
Arnold Hoffman Co., Providence, R. I.
National Adhesives Corp., 270 Madison Ave., N. Y.
National Oil Products Co., Harrison, N. J.
Philadelphia Quartz Co., 125 S. 3rd St., Philadelphia
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sanford Mfg. Co., W. Congress & Peoria St., Chicago
A. E. Staley Mfg. Co., Decatur, Ill.
Stein, Hall & Co., 285 Madison Ave., N. Y.
Swift & Co., Chicago

AEROSOL INSECTICIDES (Containers and Dispensing Units)

Aerosols, Inc., Neodesha, Kansas
Associated Chemists, Inc., 1906 N. Halstead St., Chicago
Bridgeport Brass Co., Bridgeport 2, Conn.
Industrial Management Corp., 33 S. Clark, Chicago
Regal Chemical Corp., Bklyn. 22, N. Y.
Salkover Metal Processing Co., Dixie Term. Bldg., Cincinnati
Sparklet Devices, Inc., 272 Badger Ave., Newark 8, N. J.
Westinghouse Elec. & Mfg. Co., Springfield, Mass.

AGITATORS

Alsop Engineering Corp., Milldale, Conn.
Amer. Machine & Foundry Co., 511—5th Ave., N. Y.
Beach-Russ Co., 50 Church St., N. Y.
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Eastern Engineering Co., 45 Fox St., New Haven, Conn.
Ertel Engineering Corp., Kingston, N. Y.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 819 E. 9th St., N. Y. (Used)
Foster Pump Works, 50 Washington St., Brooklyn
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
J. M. Lehmann Co., Lyndhurst, N. J.
Littleford Bros., 443 E. Pearl St., Cincinnati
Mixing Equipment Co., Inc., 1067 Garson Ave. Rochester, N. Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago, Ill. (Used)
Pfaudler Co., 89 East Ave., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy. Co., York, Pa.
Scientific Filter Co., 1 Franklin Sq., N. Y.
Ernest Scott & Co., P. O. Box 82, Fall River, Mass.
Sowers Mfg. Co., 1296 Niagara St., Buffalo
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Corp., 426 Broome St., N. Y. C. (Used)
Struthers-Wells Titusville Corp., Warren, Pa.

AGRICULTURAL INSECTICIDES

Agicide Laboratories, 1717 Taylor Ave., Racine, Wis.
Aluminum Co. of America, Gulf Bldg., Pittsburgh
American Agricultural Chem. Co., 50 Church St., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Calif.
Ansbacher-Siegle Corp., Rosebank, S. I.
Associated Chemists, Inc., 1906 N. Halsted St., Chicago
Bowker Chemical Co., 50 Church St., N. Y.
California Spray Chemical Corp., Richmond, Calif.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chipman Chemical Co., Bound Brook, N. J.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Filtrol Corp., 634 S. Spring St., Los Angeles
Fuld Bros., Baltimore
Geigy Co., 89 Barclay St., N. Y.
General Chem. Co., 40 Rector St., N. Y.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Industrial Management Corp., 639 S. Spring St., Los Angeles
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Koppers Co., White Tar Div., Kearny, N. J.
McLaughlin, Gormley King Co., 1715—5th St., S. E. Minneapolis
Michigan Chem. Corp., St. Louis, Mich.
John Opitz, Inc., 50-14 39th St., L. I. City, N. Y.

AROMATICS

FOR SOAP, DISINFECTANT & INSECTICIDE MANUFACTURERS

- **AROMATIC CHEMICALS** . . . . . Manufactured at our Brooklyn factory under accurate chemical control, these aromatic chemicals are of the highest degree of purity, and are always of uniform quality. The following are of special interest to soap makers:

AMYL CINNAMIC ALDEHYDE	GERANYL ACETATE	LINALYL ACETATE
CITRAL	ISO BUTYL BENZOATE	RHODINOL
EUGENOL	ISO EUGENOL	
GERANIOLS	LINALOOL	TERPENYL ACETATE

- **PERFUMES FOR SOAPS** . . . . . A complete range of floral notes, bouquets and oriental odors. *Will not discolor.* Special odors can be readily supplied. The facilities of our thoroughly equipped soap laboratory are available to assist you in your soap perfume problems.

- **'FELCOFIX' SERIES** . . . . . Will definitely fix your soap perfume and enable you to save 10% to 20% of your perfume. Will prevent "Sanding" of your soap, too.

- **WATER SOLUBLE PERFUMES** . . . . . AQUAROMES—(Trade Marked)—Completely soluble in water to a clear solution. A wide variety of odors for liquid soaps, soap base shampoos, theatre sprays, formaldehyde solutions, etc. Also Aquaromes which will produce a heavy, milky solution.

- **INSECTICIDE SPRAY PERFUMES** . . . . . Whether for DDT, Pyrethrum, Thanite, or whatever the active insecticide or the base used, we will supply you with the correct neutralizer perfume for your purpose. Send us a sample of your unperfumed product and let our chemists recommend the best odor mask for it.

- **PERFUMES for DEODORANT BLOCKS and CRYSTALS:** COLOROMES (Trade Marked)—Will perfume and color naphthalene and paradichlorbenzene in one simple operation. A wide variety of odors and colors are available. Perfume also supplied without color. With the use of Felton Coloromes, the odor remains until the last particle of naphthalene or para has evaporated.

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AGRICULTURAL INSECTICIDES (Contd.)

S. B. Penick & Co., 50 Church St., N. Y.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Richards Sales Corp., Warren & Morris Sts., Jersey City, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Schaeffer Bros. & Powell Mfg. Co., 102 Barton St., St. Louis, Mo.
Sherwin-Williams Co., 292 Madison Ave., N. Y.
L. Sonneborn Sons, 88 Lex. Ave., N. Y.
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Thompson-Hayward Chem. Co., Kansas City, Mo.
Tobacco By-Products & Chem. Corp., Louisville, Ky.
Velsicol Corp., 120 E. Pearson St., Chicago
Whitmire Research Corp., 339 S. Vandeventer, St. Louis
Woburn Chemical Corp., Harrison, N. J.
York Chem. Co., 424 W. 18th St., N. Y.

AGRICULTURAL INSECTICIDE SPREADERS

Aluminum Ore. Co., Gulf Bldg., Pittsburgh
American Colloid Co., 363 W. Superior St., Chicago
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Ansbacher-Siegle Corp., Rosebank, S. I.
Attapulgus Clay Co., 260 Broad St., Phila.
Atlantic Refining Co., 260 South Broad St., Phila.
Atlas Powder Co., Wilmington, Del.
California Industrial Minerals Co., Friant, Calif.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Dicalite Co., 120 Wall St., N. Y.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Eastern Magnesia Talc Co., Burlington, Vt.
Kay-Fries Chemicals, Inc., 180 Madison Ave., N. Y.
National Oil Products Co., Harrison, N. J.
Richards Sales Corp., Jersey City, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
F. E. Schundler & Co., 508 Railroad St., Joliet, Ill.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.

ALCOHOL (Ethyl and Denatured)

(see also Dealers)

American Coml. Alcohol Corp., 405 Lexington Ave., N. Y.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Commerce Petroleum Co., 2923 S. Lock Ave., Chicago
Commercial Solvents Corp., Terre Haute, Ind.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Pennsylvania Sugar Co., 139 S. 3rd St., Phila.
Publicker Commercial Alcohol Co., 260 E. Broad St., Phila.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.

ALCOHOL (Methyl or Wood) (see also Methanol,

(see also Dealers)

Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Cliffs-Dow Chemical Co., Marquette, Mich.
E. W. Colledge, General Sales Agent, Inc., P. O. Box 389, Jacksonville, Fla.
Commercial Solvents Corp., Terre Haute, Ind.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Publicker Commercial Alcohol Co., 260 S. Broad St., Philadelphia
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.
Wood Products Co., Buffalo, N. Y.

ALCOHOL, ISO-PROPYL

Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Shell Union Oil Corp., 100 Bush St., San Francisco
Standard Alcohol Co., 26 Bway., N. Y.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.

ALKALIES (see Caustic Soda, Soda Ash, Caustic Potash, etc.)

ALUMINUM CHIPS (for Drain Solvent)

Aluminum Co. of Amer., Gulf Bldg., Pittsburgh
Belmont Smelting & Ref. Co., 318 Belmont Ave., Bklyn., N. Y.
Reynolds Metals Co., 19 Rector St., N. Y.

ALUMINUM STEARATE (see Stearates)

ALUMS

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Armour Ammonia Wks., 1355 W. 31st St., Chicago
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Co., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hercules Powder Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila. (Ammonia)
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Sergeant Chem. Co., 350 5th Ave., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

AMINOHYDROXY COMPOUNDS

Commercial Solvents Corp., Terre Haute, Ind.

AMMONIA, HOUSEHOLD (see Household Ammonia)

AMMONIA WATER

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Barrett Co., 40 Rector St., N. Y.
Cole Laboratories, 22-14—37th Ave., Long Island City, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastern Industries, Inc., Ridgefield, N. J.
General Chemical Co., 40 Rector St., N. Y.
Mallinckrodt Chem. Wks., St. Louis
Mathieson Alkali Works, 60 E. 42nd St., N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Shell Union Oil Corp., 100 Bush St., San Francisco
Solvay Sales Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

AMMONIUM BI-FLUORIDE (see Fluorides)

AMMONIUM CARBONATE

(see also Dealers)

American-British Chm. Supplies, Inc., 180 Madison Ave., N. Y.
American Agricultural Chem. Co., 50 Church St., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Solvay Sales Corp., 40 Rector St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

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ASIL

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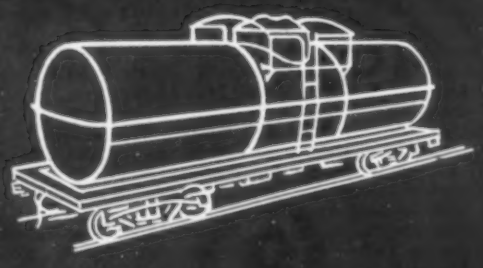

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Heyden Chem. Co., 50 Union Sq., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Orbis Products Corp., 215 Pearl St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Tombarel Products Corp., 12 E. 22nd St., New York
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Wm. Cooper & Nephews, 1909 Clifton Ave., Chicago
Hydrocarbon Products, 500 Fifth Ave., N. Y.
William E. Jordan & Bro., 2590 Atlantic Ave., Brooklyn
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
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American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
Innis, Speiden & Co., 117 Liberty St., N. Y.
Merck & Co., Rahway, N. J.
Mutual Chem. Co. of America, 270 Madison Ave., N. Y.
Natural Prods. Refining Co., Jersey City, N. J.
Prior Chem. Corp., 420 Lexington Ave., N. Y.
Sergeant Chemical Co., 350 5th Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

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Buffalo Electro Chem. Co., Buffalo, N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
Diversey Corp., 53 W. Jackson Blvd., Chicago
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Cc., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Lucidol Corp., 293 Larkin St., Buffalo
Mathieson Alkali Works, 60 E. 42nd St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
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Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sergeant Chem. Co., 350 5th Ave., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.
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Jos. Turner & Co., Ridgefield, N. J.
Westvaco Chlorine Prods. Co., Chrysler Bldg., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

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American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Attapulgus Clay Co., 260 So. Broad St., Phila.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 120 Wall St., N. Y
Filtrol Corp., 634 S. Spring St., Los Angeles
Hammil & Gillespie, 225 Broadway, N. Y.
J. M. Huber, Inc., 460 W. 34th St., N. Y.
Illinois Silica Co., Cairo, Ill.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Peerless Clay & Mineral Co., Pueblo, Colo.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Sinclair Refining Co., East Chicago, Ind.
A. E. Starkie Co., 5461 W. Division St., Chicago
Tamms Silica Co., 228 N. LaSalle St., Chicago
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.
Wyodak Chem. Co., 4600 E. 71st St., Cleveland

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BLEACHING POWDER (Chloride of Lime)

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Diversey Corp., 53 W. Jackson Blvd., Chicago
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mathieson Alkali Works, 60 E. 42nd St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
Sergeant Chem. Co., 350 5th Ave., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
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Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

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Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
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Fuld Bros., 702 S. Wolfe St., Baltimore
Goulard & Olena, Inc., 140 Liberty St., N. Y.
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Higley Chem. Co., Dubuque, Iowa
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Hysan Prods. Co., 932 W. 38th Place, Chicago
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Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
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Midland Labs., Dubuque, Iowa
Palmer Products Co., Waukesha, Wisc.
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Innis, Speiden & Co., 117 Liberty St., N. Y.
Pacific Coast Borax Co., 51 Madison Ave., N. Y.
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Stauffer Chem. Co., 420 Lexington Ave., N. Y.
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Millville Bottling Wks., Millville, N. J.
Owens Illinois Glass Co., Toledo, O.
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Gardner-Richardson Co., Middletown, O.
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Wm. M. Ware & Co., 88 Broad St., Boston
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Cin-Made Corp., 294 Eggleston Ave., Cincinnati
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Continental Can Co., 100 E. 42nd St., N. Y.
Cross Paper Products Co., 2595 Third Ave., N. Y.
Fonda Container Co., 41 Park Row, N. Y.
Gardner-Richardson Co., Middletown, O.
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Crown Can Co., Erie Ave. & H St., Phila.
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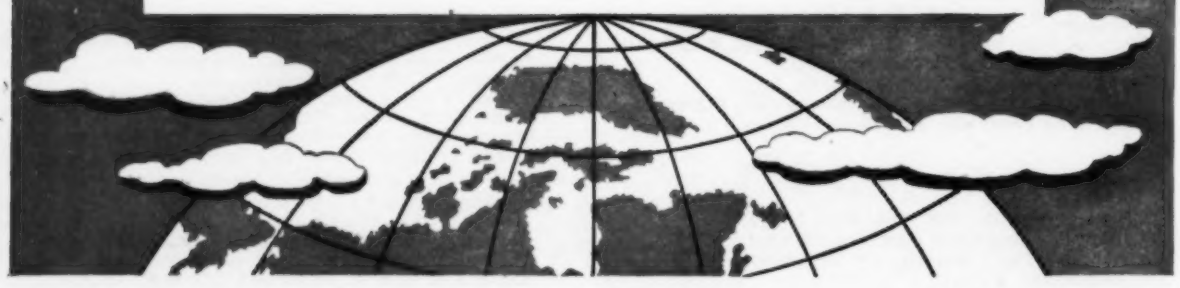

CAPS (Metal) (Contd.)

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Niagara Smelting Corp., Niagara Falls, N. Y.
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Gardner-Richardson Co., Middletown, Ohio
Nevins-Church Co., 250 Park Ave., N. Y.
New England Card & Paper Co., Springfield, Mass.
Pictorial Package Co., Aurora, Ill.
Randolph Box & Label Co., 843 W. VanBuren St., Chicago
W. C. Ritchie & Co., 8855 S. Baltimore Ave., Chicago
Robertson Paper Box Co., Inc., Montville, Conn.
George Schmitt & Co., Grand & Florence Sts., Brooklyn
Sutherland Paper Co., Kalamazoo, Mich.
U. S. Printing & Lithographing Co., Cincinnati, Ohio
Universal Folding Box Co., Monroe & 13th St., Hoboken, N. J.

CASE SEALING MACHINERY (see Sealing Machinery)

CASEIN

American-British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Casein Co. of America, Div. of The Borden Co., 350 Madison Ave., N. Y.
Wm. Diehl & Co., 336 W. 42nd St., N. Y. 18
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Land-o-Lakes Creameries, Minneapolis
National Casein Co., 603 W. 80th St., Chicago
Sergeant Chem. Co., 350 5th Ave., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

CASES (Fibre) (see Boxes, Cans)

CASES (Corrugated) (see Boxes)

CASSIA OIL (see Essential Oils)

CASTILE SOAP, BAR

Armour Soap Wks., 1355 W. 31st St., Chicago
Conti Products Corp., 155 Varick St., N. Y.
Haskins Bros. & Co., Omaha
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Kranich Soap Co., 54 Richards St., Brooklyn
Lockwood-Brackett Co., Waltham Station, Boston
Los Angeles Soap Co., Los Angeles, Calif.
Newell Gutradt Co., 350 Fremont St., San Francisco
Peck's Prods. Co., 5238 N. 2nd St., St. Louis
Procter & Gamble Co., Ivorydale, O.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Solshine Mfg. Co., 412 2nd St., Fall River, Mass.
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Bklyn.
Swift & Co., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

CASTILE SOAP, LIQUID

Ampion Corp., 47-02 5th St., Long Island City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Baums Castorine Co., 200 Matthew St., Rome, N. Y.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Eagle Soap Co., 205 Navy St., Bklyn.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Phila.
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Higley Chem. Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 932 W. 38th Place, Chicago
Kranich Soap Co., 54 Richards St., Brooklyn
Lewis Soap & Chem. Co., 2210 San Pablo Ave. Oakland, Calif.

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Columbia chemicals have proved highly satisfactory in the manufacture of soaps and for cleaning specialties . . . because of the high standards governing their production and shipment which assure unvarying excellence. For best results in your operations specify Columbia.

Caustic Soda

Liquid	50% and 73% NaOH
Solid	76% Na_2O
Flake	76% Na_2O, Fine and Medium
Ground and Powdered	76% Na_2O

Columbia Caustic Soda is especially desirable for the manufacture of soap because of its freedom from impurities and metallic contamination. Liquid grades are shipped in special tank cars which first made practical the shipment of 73% Caustic Liquor in its purest form. Insulation effectively prevents crystallization and the patented lining prevents metallic contamination in transit.

Other grades test 98-100% Sodium Hydroxide (NaOH), equivalent to 76% Na_2O. Flake Caustic Soda is prepared in two grades of fine and medium sized flakes, free of dust. The finer grade is especially suitable for repacking for household use, as are the Ground and Powdered grades.

Soda Ash - Light and Dense

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Special Cleansers

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Modified Sodas

Mixtures of Sodium Carbonate and Sodium Bicarbonate. Especially useful in cleansing operations requiring a mild alkaline detergent-aid. Manufactured in three grades—No. 100, No. 200 and No. 300—with different degrees of alkalinity.

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Columbia's Technical Service is available for developing the most advantageous uses of these or other Columbia products in your processes.

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COLUMBIA CHEMICAL DIVISION

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CASTILE SOAP, LIQUID (Contd.)

Los Angeles Soap Co., 617 E. 1st St., Los Angeles,
National Oil Products Co., Harrison, N. J.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5238 N. 2nd St., St. Louis
Theo. B. Robertson Prods. Co.,
700 W. Division St.,Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Superior Soap Corp., 121 Nostrand Ave., Bklyn.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

CASTOR OIL

(see also Dealers)

Archer-Daniels-Midland Co., Minneapolis
Baker Castor Oil Co., 120 Broadway, N. Y.
Balfour, Guthrie & Co., 67 Wall St., N. Y.
T. G. Cooper & Co., 47 N. 2nd St., Phila.
Otto A. C. Hagen Co., 929 Public Ledger Bldg., Phila.
Spencer Kellogg & Sons, Buffalo, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St.,
San Francisco
J. H. Redding, Inc., 17 Battery Place, N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

CATALYSTS

Aluminum Co. of America, Gulf Bldg., Pittsburgh
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
General Chem. Co., 40 Rector St., N. Y.
Harshaw Chem. Co., Cleveland
Hooker Electrochemical Co., Niagara Falls, N. Y.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

CATTLE DIPS AND SPRAYS

(see also Sheep Dips)

An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Ampion Corp., 47-02 5th St., Long Island City, N. Y.
Associated Chemists, Inc., 1906 N. Halsted Ave., Chicago
Baird & McGuire, Holbrook, Mass.
Baird & McGuire, Inc. of Mo., St. Louis
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
California Spray-Chemical Corp., Richmond, Calif.
Cary Mfg. Co., 4917 E. Michigan St., Indianapolis
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 2526 W. Congress St.,
Chicago
Chipman Chem. Co., Bound Brook, N. J.
Clifton Chemical Co., 62 William St., N. Y.
Davies-Young Soap Co., Dayton, O.
Delta Chem. Co., 4 Payson Ave., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Goulard & Olena, 140 Liberty St., N. Y.
Haag Laboratories, Inc., 6101 S. May St., Chicago
Harrison Oil Co., 5110 N. 35th St., Milwaukee
Higley Chem. Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Hunt Mfg. Co., Lisbon Rd., Cleveland
William E. Jordan & Bros., 2590 Atlantic Ave., Brooklyn
Kemico Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Koppers Co., White Tar Div., Kearney, N. J.
McLaughlin, Gormley, King Co., Minneapolis, Minn.
Michigan Chem. Corp., St. Louis, Mich.
National Oil Products Co., Harrison, N. J.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prod. Co., 522-40 N. 2nd St., St. Louis
Rex Research Corp., Toledo
Theo. B. Robertson Prods. Co., 700 W. Division St.,
Chicago
St. Lawrence Chem. Co., Ogdensburg, N. Y.
Schaeffer Bros. & Powell Mfg. Co., 102 Barton St.,
St. Louis
Shores Co., Cedar Rapids, Ia.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Texas Soap Mfg. Corp., 4905 Calhoun Road, Houston
Texol Chem. Wks., 3 Winter St., Worcester, Mass.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd.,
Kansas City, Mo.
Tobacco By-Products & Chem. Corp., Louisville, Ky.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Universal Chem. Corp., Akron, O.
Velsicol Corp., 120 E. Pearson St., Chicago
Victory Chem. Co., 148 Fairmont Ave., Phila.
Robert C. White Co., Chestnut Hill, Phila.

CATTLE SPRAY BASE (see Petroleum Bases)

CAUSTIC POTASH (see Potash, Caustic)

CAUSTIC SODA

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller
Plaza, N. Y.
Belle Alkali Co., Belle, W. Va.
Brown Company, Portland, Me.
Champion Fibre Co., Canton, N. C.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co.,
230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Kimberley-Clark Paper Co., Neenah, Wis.
Mathieson Alkali Works, 60 E. 42nd St., N. Y.
Michigan Electrochemical Co., Menominee, Mich.
Monsanto Chem. Co., St. Louis 4
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Niagara Smelting Corp., Niagara Falls, N. Y.
Oxford Paper Co., White Mountains, N. H.
Pennsylvania Salt Mfg. Co., Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chemical Div.,
Grant Bldg., Pittsburgh
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Westvaco Chlorine Prods. Co., 405 Lexington Ave., N. Y.
Welch, Holme & Clark, 563 Greenwich St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div.,
Wyandotte, Mich.

CEDAR LEAF OIL (see Essential Oils)

CEDARWOOD OIL (see Essential Oils)

CERESIN WAX (see Waxes)

CHALK (Calcium Carbonate)

American Cyanamid & Chem. Corp., 30 Rockefeller
Plaza, N. Y.
H. J. Baker & Bro., 271 Madison Ave., N. Y.
Binney & Smith Co., 41 E. 42nd St., N. Y.
Charles B. Chrystal Co., 53 Park Pl., N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Fezandie & Sperrle, 205 Fulton St., N. Y.
E. Fougera & Co., 41 Maiden Lane, N. Y.
Goris & Co., 8124 S. Hoyne Ave., Chicago
K. F. Griffiths Co., 110 E. 42nd St., N. Y.
Hammill & Gillespie, 225 Broadway, N. Y.

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Charles Hardy, Inc., 415 Lexington Ave., N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis Speiden & Co., 117 Liberty St., N. Y.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Tamms Silica Co., 228 N. LaSalle St., Chicago
Whittaker, Clark & Daniels, Inc., 260 W. Broadway, New York
Witco Chemical Co., 295 Madison Ave., N. Y.

CHAMOIS

Addison Sponge Co., 118 E. Court St., Cincinnati
Allied Industrial Prods. Co., 620 N. Michigan St., Chicago
Amer. Sponge & Chamois Co., 47 Ann St., N. Y.
Atlas Sponge Co., 291 Church St., N. Y.
Churchill Mfg. Co., Galesburg, Ill.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Great Eastern Sponge & Chamois Co., 833 N. Patt. Pk. Ave., Baltimore
Jos. Neihaus Co., 341 W. 4th St., Cincinnati
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Schroeder & Tremayne, 500 N. Coml. St., St. Louis

CHEMICALS, LOCAL DEALERS (see Dealers, Chemicals)

CHEMISTS, CONSULTING, See Consultants, See Laboratories, Testing

CHILLING ROLLS

Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 819 E. 9th St., N. Y. (Used)
William Garrigue & Co., 9 S. Clinton St., Chicago
Houchin Machy. Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
J. M. Lehmann Co., Lyndhurst, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Proctor & Schwartz, 7th St. & Tabor Rd., Philadelphia
C. G. Sargent's Sons Corp., Graniteville, Mass.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
F. J. Stokes Machine Co., 5974 E. Tabor Rd., Phila.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

CHIPPERS (see Soap Machinery)

CHIP SOAPS (including Flakes)

American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Co., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Products Co., 3100 S. Throop St., Chicago
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Du Bois Soap Co., Cincinnati, Ohio
J. Eavenson & Sons, Camden, N. J.
Fels & Co., Philadelphia
Haskins Bros. & Co., Omaha
Hewitt Soap Co., Dayton, Ohio
R. M. Hollingshead Corp., Camden, N. J.
Lever Bros. Co., Cambridge, Mass.
Los Angeles Soap Co., Los Angeles, Calif.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
National Milling & Chem. Co., Manayunk, Phila.
National Oil Products Co., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Wash.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Geo. Schmidt Co., 236 W. North Ave., Chicago, Ill.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Warren Soap Mfg. Co., 51 Warren St., Cambridge, Mass.
M. Werk Co., Cincinnati
Chas. W. Young & Co., 1247 N. 26th St., Phila.

CHLORIDE OF LIME (see Bleaching Powder

CHLORINE

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
E. I. Du Pont de Nemours Co., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mathieson Alkali Works, 60 E. 42nd St., N. Y.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Pennsylvania Salt Mfg. Co., Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Westvaco Chlorine Prods. Co., 405 Lexington Ave., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

CHLORINE DISINFECTANTS (see Disinfectants)

CHLOROFORM

Brown Company, Portland, Me.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Malinckrodt Chemical Works, St. Louis, Mo.
Merck & Co., Rahway, N. J.
Niagara Smelting Corp., Niagara Falls, N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.

CHLOROPHYLL (see also Essential Oils)

A. C. Drury & Co., 219 E. North Water St., Chicago
R. W. Greef & Co., 10 Rockefeller Plaza, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Interstate Color Co., 5 Beekman St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Merck & Co., Rahway, N. J.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 80 John St., N. Y.
Pylam Products Co., 799 Greenwich St., N. Y.
Sandoz Chem. Works, Inc., 61 Van Dam St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

CITRAL (see Aromatic Chemicals)

CITRONELLAL (see Aromatic Chemicals)

CITRONELLA OIL (see Essential Oils)

CITRONNELLOL (see Aromatic Chemicals)

CLAYS
(see also Bleaching Earths)

American Colloid Co., 363 W. Superior St., Chicago
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Atlantic Refining Co., 260 S. Broad St., Phila.
Attapulgus Clay Co., 260 So. Broad St., Phila.
California Industrial Minerals Co., Friant, Calif.
Charles B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 120 Wall St., N. Y.
Fezandie & Sperrle, 205 Fulton St., N. Y.
Filtrol Corp., 634 S. Spring St., Los Angeles
Goris & Co., 8124 S. Hoyne Ave., Chicago
Hammil & Gillespie, 225 Broadway, N. Y.
Hercules Powder Co., Wilmington, Del.
J. M. Huber, Inc., 460 W. 34th St., N. Y.
Illinois Silica Co., Cairo, Ill.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.

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When used as the diluent for finely ground solid preparations, the need for other chemicals to prevent caking is greatly reduced or eliminated.

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Innis, Speiden & Co., 117 Liberty St., N. Y.
International Silica Co., Cairo, Ill.
Natura Minerals Co., 108 W. 6th St., Los Angeles
National Sales Corp., 33 E. 13th St., Cincinnati
Owyhee Chemical Products Co., 300 W. Adams St., Chicago
Peerless Clay & Mineral Co., Pueblo, Colo.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Joliet, Ill.
Sinclair Refining Co., East Chicago, Ind.
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
A. E. Starkie Co., 5461 W. Division St., Chicago
Tamms Silica Co., 228 N. LaSalle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.
Wyodak Chem. Co., 4600 E. 71st St., Cleveland

CLEANERS, LIQUID (see also FLOOR SCRUB SOAPS)

American Chemical Paint Co., Ambler, Pa.
American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 47-02 5th St., Long Island City, N. Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Calif.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st, Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire, Inc., of Mo., St. Louis
Banner Chem. Prods. Co., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Barton Chemical Co., 3907 S. Langley Ave., Chicago
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 109 Avenue L, Newark, N. J.
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Service Co., Baltimore 30, Md.
Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Continental Car-Na-Var Corp., Brazil, Ind.
Curran Corp., Malden, Mass.
Davies-Young Soap Co., Dayton, Ohio
Delta Chemical Co., 4 Payson Ave., N. Y.
Diversey Corp., 53 W. Jackson Blvd., Chicago
Eagle Soap Corp., Huntington, Ind.
Eagle Soap Co., 205 Navy St., Bklyn.
Franklin Research Co., 5134 Lancaster Ave., Phila., Pa.
Fuld Bros., 702 So. Wolfe St., Baltimore
Gleamite Co., Coudersport, Pa.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Hercules Chem. Co., 332 Canal St., N. Y.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco, Cal.
R. M. Hollingshead Corp., Camden, N. J.
House of Milo, 628 N. 9th St., Birmingham
Hubman Supply Co., 225 N. 4th St., Columbus, Ohio
James Huggins & Son, Malden, Mass.
Hull Co., 305 Washington St., Brooklyn
Hysan Prods. Co., 932 W. 38th Place, Chicago
Industrial Chem. Prods. Co., Comm. Trust Bldg., Phila.
Koppers Co., White Tar Div., Kearney, N. J.
La Maison Prods., Inc., 80 York St., Brooklyn
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
M. & H. Laboratories, 2703 Archer Ave., Chicago
Midland Labs., Dubuque, Iowa
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
National Oil Products Co., Harrison, N. J.
Palmer Products, Inc., Waukesha, Wisc.

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VOLCLAY is not just a "filler." It has actual detergent properties, which become very useful when combined with other ingredients

VOLCLAY is produced in air-floated powders, some impalpably fine. Also as "KWK" — a pellet form that astonishingly disperses in water very quickly and yet yields the same colloidal gels as fine powder.

- **Emulsifies oil, greasy soil and bitumens**
- **Absorbs and suspends soil particles**
- **Absorbs certain proteins, also carbon**
- **Mild. The pH is 9 to 9.5**
- **Slightly zeolitic—absorbs calcium, gives up sodium ions**

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For the convenience of the consumer, Solvay Caustic Soda is delivered in the five forms listed above.

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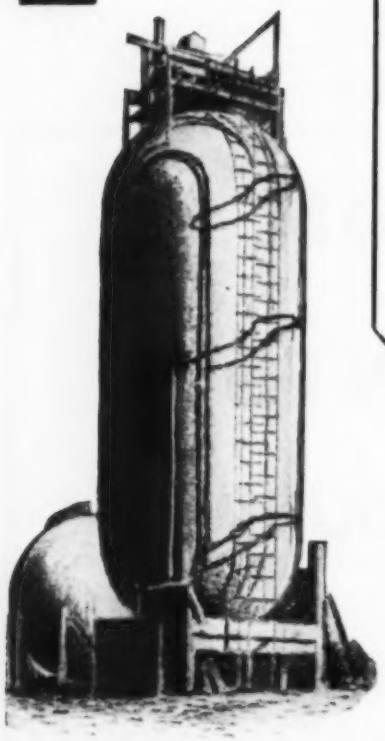

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Seil, Putt & Rusby, 16 E. 34th St., N. Y.
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Stillwell & Gladding, 130 Cedar St., N. Y.
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Nuodex Prods. Co., 312 Division St., Elizabeth, N. J.

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Dow Chemical Co., Midland, Mich.
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General Chemical Co., 40 Rector St., N. Y.
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Sergeant Chem. Co., 350—5th Ave., N. Y.
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Cork Import Corp., 330 W. 42nd St., N. Y.
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Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Julius Schmid, Inc., 423 W. 55th St., N. Y.
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A. E. Starkie, 5461 W. Division St., Chicago
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Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
Spencer Kellogg & Sons, Buffalo, N. Y.
Portsmouth Cotton Oil Refining Corp., Portsmouth, Va.
Procter & Gamble Co., Cincinnati, O.
J. H. Redding Co., 17 Battery Pl., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
C. F. Simonin's Sons, Phila.
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General Drug Co., 125 Barclay St., N. Y.
Givaudan-Delawanna, 330 W. 42nd St., N. Y.
Maywood Chemical Wks., Maywood, N. J.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis

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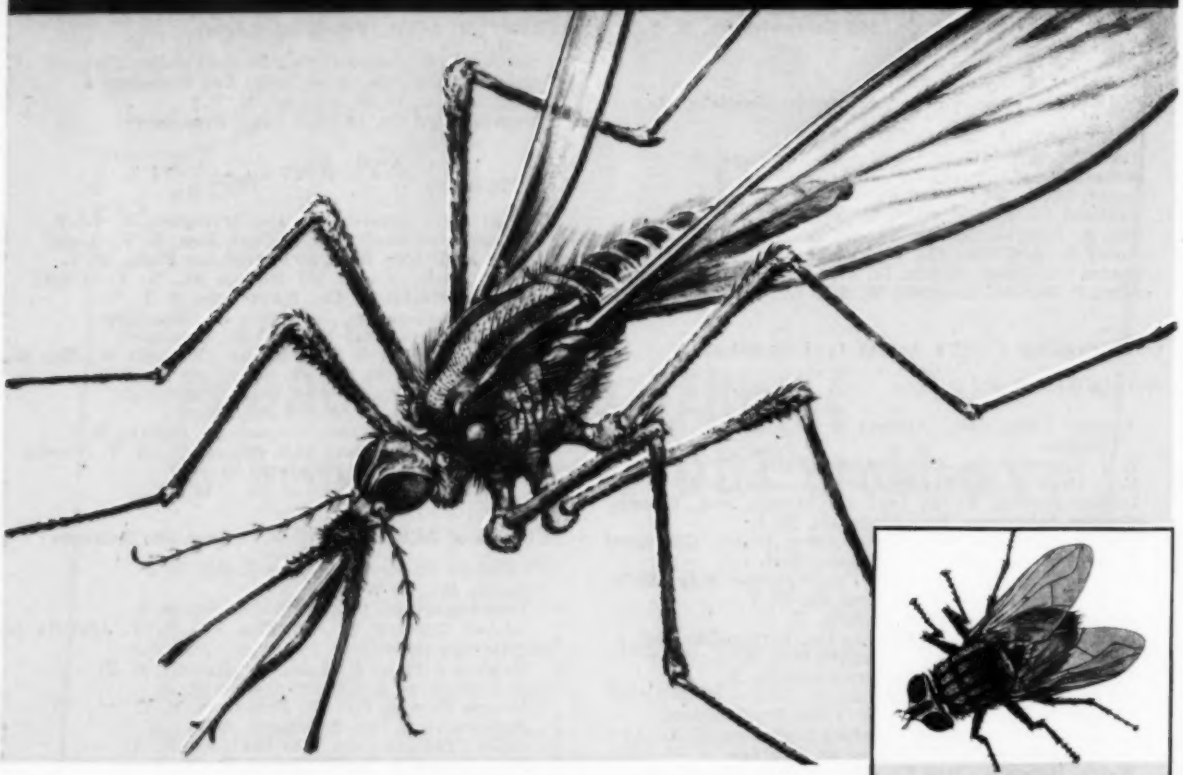

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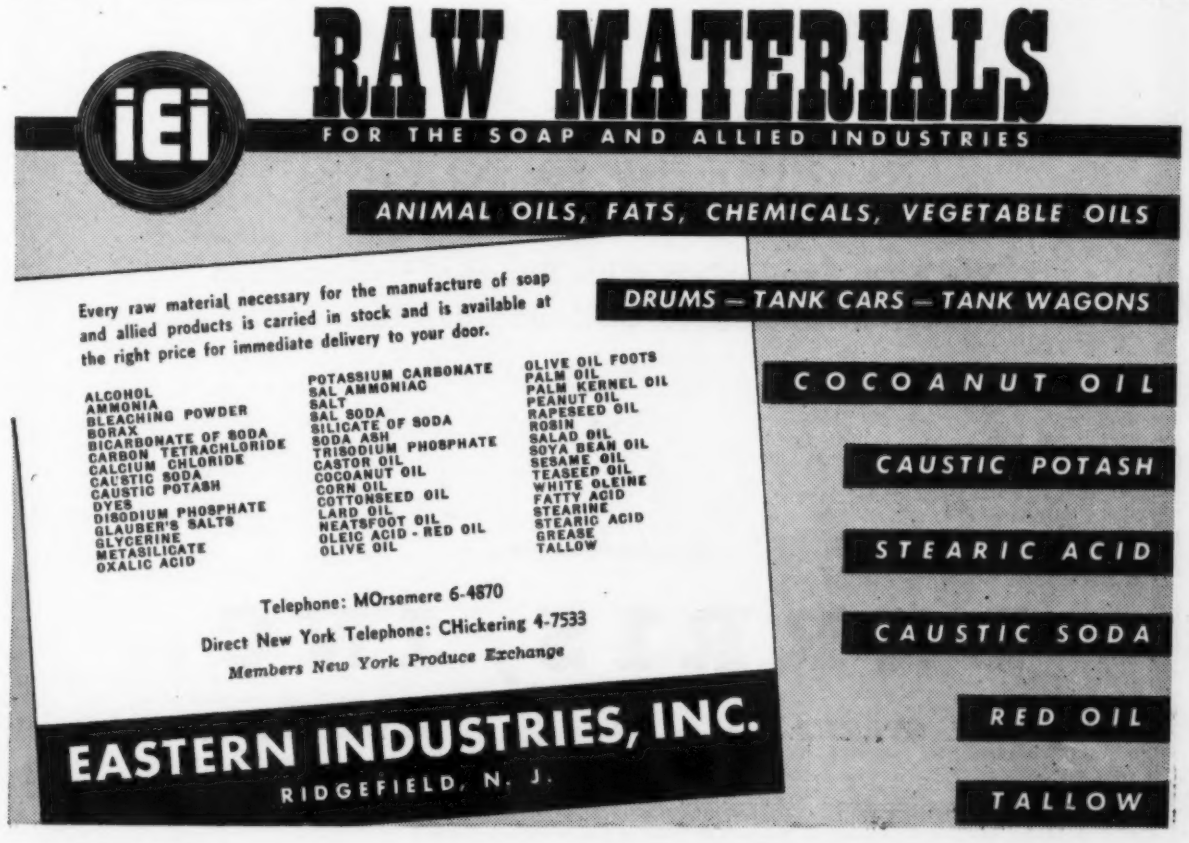

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Industrial Labs., 17-19 W. Conway St., Baltimore
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Calif.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Kleenaire KemiKils, 2227 24th St., Detroit
Koppers Co., White Tar Div., Kearny, N. J.
Lewis Soap & Chem. Co., 2210 Pablo Ave., Oakland, Calif.
Midland Labs., Dubuque, Iowa
North Coast Soap & Chem. Wks., Seattle, Wash.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Puritan Chemical Co., Atlanta, Ga.
Theo. B. Robertson Prods., Co., 700 W. Division St., Chicago
Rochester Germicide Co., Rochester, N. Y.
Selig Co., 336 Marietta St., Atlanta, Ga.
Solshine Mfg. Co., 412—2nd St., Fall River
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Victory Chemical Co., 148 Fairmount Ave., Phila.
York Chemical Co., 424 W. 18th St., N. Y.

DERRIS PRODUCTS

Chipman Chem. Co., Bound Brook, N. J.
Derris, Inc., 79 Wall St., N. Y.
Dodge & Olcott Co., 60 E. 42nd St., N. Y.
Greene Trading Co., 70 Pine St., N. Y. (agents for foreign sellers)
Hammond Paint & Chem. Co., Beacon, N. Y.
J. L. Hopkins & Co., 220 Bway., N. Y.
Lenape Trading Co., 233 Broadway, N. Y.
McCormick & Co., Baltimore, Md.
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Frank B. Ross Co., 507—8th St., Hoboken, N. J.
Whitmire Research Corp., 339 S. Vandeventer, St. Louis

DETERGENTS (Alkaline Salt Compounds)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 47-02 5th St., L. I. City
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago
Blockson Chemical Co., Joliet, Ill.
Boston Chemical Industries, 64 E. Brookline St., Boston
Calgon, Inc., Pittsburgh
Candy & Co., 2515 W. 35th St., Chicago
Chemical Mfg. & Dist. Co., Easton, Pa.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Cowles Detergent Co., 7016 Euclid Ave., Cleveland
Curran Corp., Malden Mass.
Delta Chem. Co., 4 Payson Ave., N. Y.
Diamond Alkali Co., Standard Silicate Div., 535 Smithfield St., Pittsburgh
Diversey Corp., 53 W. Jackson Blvd., Chicago
DuBois Soap Co., Cincinnati
E. I. Du Pont de Nemours & Co., Wilmington, Dela.
Economics Laboratory, Globe Bldg., St. Paul
Fuld Bros., Baltimore
Gaskill Products, 9 S. Letitia St., Phila.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Hercules Powder Co., Wilmington, Dela.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco, Calif.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Kamen Soap Prods. Co., Woolworth Bldg., N. Y.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
A. R. Maas Chem. Co., South Gate, Calif.
MacKenzie Laboratories, Front and Yarnall Sts., Chester, Pa.
Mathieson Alkali Works, 60 E. 42nd St., N. Y.
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Monsanto Chemical Co., 1724 S. 2nd St., St. Louis
Napthole, Inc., 15 E. 26th St., New York
National Oil Products Co., Harrison, N. J.
Peck's Prods. Co., 5224 N. 2nd St., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Philadelphia Quartz Co., 125 S. 3rd St., Philadelphia
Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
Port Huron Detergent Co., Port Huron, Mich.
Rumford Chem. Wks., Rumford, R. I.
Sanitary Soap Co., 104 Railroad Ave., Patterson, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Stevens Soap Corp., 200 Sullivan St., Brooklyn, N. Y.
E. M. Sergeant Purp & Chem. Co., 7 Dey St., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Jos. Turner & Co., Ridgefield, N. J.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Westvaco Chlorine Prods. Co., 405 Lexington Ave., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Wyandotte Chemical Corp., Wyandotte, Mich.

DETERGENTS, Synthetic (Non-soap) Raw Materials

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Atlantic Refining Co., 260 S. Broad St., Phila.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Chem. Mfg. & Dist. Co., Easton, Pa.
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del.
General Drug Co., 125 Barclay St., N. Y.
General Dyestuff Corp., 435 Hudson St., N. Y.
Michel Export Co., Inc., 90 Broad St., N. Y.
Monsanto Chem. Co., St. Louis

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DETERGENTS, Synthetic, Non-Soap, Raw Materials (Contd.)

National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
National Oil Products Co., Harrison, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Solvay Sales Corp., 40 Rector St., N. Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Stanco Distributors, 216 W. 14th St., N. Y.

DETERGENTS, Synthetic Organic, (Non-soap)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Atlantic Refining Co., 260 S. Broad St., Phila.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Carlstadt Chem. Co., Carlstadt., N. J.
Chem. Mfg. & Dist. Co., Easton, Pa.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Eavenson Chem. Co., 55 Liberty St., N. Y.
Emulsol Corp., 59 E. Madison St., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
General Drug Co., 125 Barclay St., N. Y.
General Dyestuff Corp., 435 Hudson St., N. Y.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Hercules Powder Co., Wilmington, Del.
Arnold Hoffman Co., Providence, R. I.
Kamen Soap Products Co., Woolworth Bldg., N. Y.
Lever Bros. Co., Cambridge, Mass.
Mackenzie Laboratories, Front & Yarnall Sts., Chester, Pennsylvania
Michel Export Co., 90 Broad St., N. Y.
Monsanto Chemical Co., St. Louis
National Aniline & Chem. Co., 40 Rector St., N. Y.
National Oil Products Co., Harrison, N. J.
Procter & Gamble Co., Cincinnati, O.
Richards Sales Corp., Jersey City, N. J.
Sandoz Chem. Wks., 61 Van Dam St., N. Y.
Seaboard Distributors, 60 Park Pl., Newark, N. J.
Solvay Sales Corp., 40 Rector St., N. Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville, N. J.

DIATOMACEOUS EARTH, (see Bleaching Earths)

DIES (see Soap Dies)

DIETHANOLAMINE (see Ethanolamine)

DIFFUSERS (Steam and Air)

Electric Sprayit Co., Sheboygan, Wisc.
Fumeral Co., Racine, Wisc.
Mystic Products Co., 417 No. 5th St., Minneapolis

DIPHENYL OXIDE (see Aromatic Chemicals)

DIP OIL (see Coal Tar Raw Materials)

DISH WASHING COMPOUND DISPENSERS

Chemical Mfg. & Dist. Co., Easton, Pa.
Economics Laboratory, Inc., 622 Globe Bldg., St. Paul
Fuld Bros., 702 S. Wolfe St., Baltimore
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hysan Prods. Co., 932 W. 38th Place, Chicago
Mathieson Alkali Wks., 60 E. 42nd St., N. Y. (Cakes)
John T. Stanley Co., 642 W. 30th St., N. Y.
V. C. Products Co., Beury Bldg., Philadelphia (Powders)

DISH WASHING COMPOUNDS (see Cleaning Compounds, Dry)

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Banner Chem. Prods. Co., 60 Elm St., Newark, N. J.
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Goulard & Olena, Inc., 140 Liberty St., N. Y.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco, Calif.
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Products Co., 932 W. 38th Place, Chicago.
Mathieson Alkali Works, 60 E. 42nd St., N. Y.
McLaughlin Gormley King Co., Minneapolis, Minn.
Merck & Co., Rahway, N. J.
Midland Labs, Dubuque, Iowa
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
North Coast Soap & Chem. Works, Seattle, Wash.
Peck's Prods. Co., 5224 N. 2nd St., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Puritan Chem. Co., Atlanta, Ga.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Sanitary Prods. Co., 874 Seward St., Rochester, N. Y.
Sherwin-Williams Co., 601 Canal Rd., Cleveland
Thompson-Hayward Chemical Co., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Victory Chem. Co., 148 Fairmount Ave., Phila.

DISINFECTANTS, QUATERNARY AMMONIUM (See also Quaternary Ammonium Compounds)

Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire, Inc. of Mo., St. Louis.
Chemical Supply Co., Plymouth Bldg., Cleveland
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Products Co., 932 W. 38th Place, Chicago.
Rochester Germicide Co., Rochester, N. Y.
Hysan Products Co., 932 W. 38th Place, Chicago.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.

DISINFECTANTS, COAL TAR and PINE OIL

Ampion Corp., 47-02 5th St., Long Island City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire, Inc. of Mo., St. Louis
Banner Chem. Prods. Corp., 60 Elm St., Newark, N. J.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 109 Avenue L, Newark, N. J.
Samuel Cabot, Inc., 141 Milk St., Boston
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Service Co., Baltimore, Md.
Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Continental Car-Na-Var Corp., Brazil, Ind.
Wm. Cooper & Nephews, 1909 Clifton Ave., Chicago
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Davies-Young Soap Co., Dayton, O.
Delta Chemical Co., 4 Payson Ave., N. Y.
Eagle Soap Corp., Huntington, Ind.
Eagle Soap Co., 205 Navy St., Bklyn.
Elkay Products Co., 323 W. 16th St., N. Y.
Emulsol Corp., 59 E. Madison St., Chicago
Fergusson Laboratories, Drexel Bldg., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaskill Prods., 9 S. Letitia St., Phila.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th and Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Higley Chem. Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Products Co., 932 W. 38th Place, Chicago.
Koppers Co., White Tar Div., Kearny, N. J.
Merck & Co., Rahway, N. J.
Midland Labs., Dubuque, Iowa
National Sawdust Co., 69 N. 6th St., Bklyn.
National Oil Products Co., Harrison, N. J.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods Co., 5240 N. 2nd St., St. Louis
Puritan Chem. Co., Atlanta, Ga.
Riverside Chem. Co., N. Tonawanda, N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., Rochester, N. Y.
Sherwin-Williams Co., 601 Canal Rd., Cleveland, Ohio
Shores Co., Cedar Rapids, Ia.
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Tesco Chem. Co., P. O. Box 4748, Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Wks., 3 Winter St., Worcester, Mass. (Pine Oil only)
Trio Chem. Wks., 34 Scholes St., Bklyn.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Vliet & Co., 638 Monroe St., Brooklyn
West Disinfecting Co., Long Island City, N. Y.
York Chemical Co., 424 W. 18th St., N. Y.

DISINFECTANTS, Synthetic

Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire, Inc., St. Louis
Fuld Bros., 702 S. Wolfe St., Baltimore
Chemical Supply Co., Plymouth Bldg., Cleveland
Higley Chem. Co., Dubuque, Ia.
R. M. Hollingshead Corp., Camden, N. J.
House of Milo, 628 N. 9th St., Birmingham
Hysan Products Co., 932 W. 38th Place, Chicago.
Koppers Co., White Tar Div., Kearny, N. J.
Monsanto Chem. Co., St. Louis
Puritan Chem. Co., Atlanta, Ga.
Texol Chem. Wks., 3 Winter St., Worcester, Mass.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

DISINFECTANTS, COEFFICIENT TESTS (see Laboratories)

DISPENSERS, LIQUID SOAP (see Soap Dispensers)

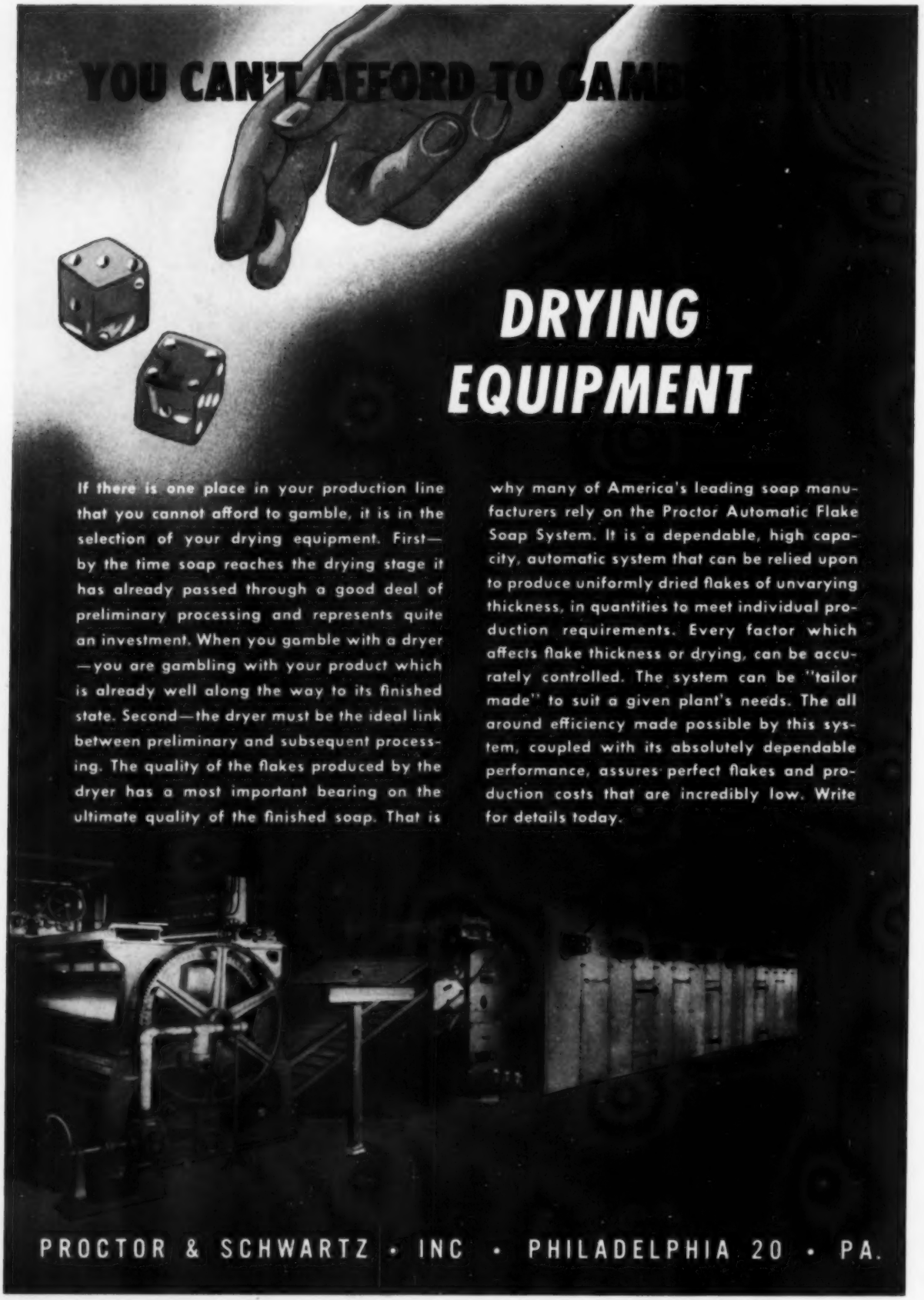
DISSEMINATORS, PERFUME (see Perfume Disseminators)

DOG REPELLENTS

Acme White Lead Co., Detroit
Ampion Corp., 4-88—47th Ave., Long Island City, N. Y.
California Spray-Chemical Corp., Richmond, Calif.
Chemical Supply Co., Plymouth Bldg., Cleveland
Fuld Bros., 702 S. Wolfe St., Baltimore

DOG REPELLENTS

Hammond Paint & Chem. Co., Beacon, N. Y.
Hysan Products Co., 932 W. 38th Place, Chicago.
Midway Chemical Co., 5235 W. 65th St., Chicago
Sparhawk Co., Sparkill, N. Y.
Tobacco By-Products & Chem. Corp., Louisville, Ky.
Trio Chem. Wks., 341 Scholes St., Bklyn.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago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Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19—37th Ave., L. I. City, N. Y.
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Delta Chemical Co., 4 Payson Ave., N. Y.
Elkay Products Co., 323 W. 16th St., N. Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaylord Chem. Co., 505 W. 5th St., Kansas City, Mo.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Goulard & Olena, Inc., 140 Liberty St., N. Y.
Hercules Chem. Co., 332 Canal St., New York
Higley Chemical Co., Dubuque, Ia.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hull Co., 305 Washington St., Brooklyn
Hysan Products Co., 932 W. 38th Place, Chicago.
Industrial Labs., 17-19 W. Conway St., Baltimore
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
Mechling Bros. Chemical Co., Line St. & Cooper's Creek, Camden
Midland Labs., Dubuque, Iowa
North Coast Chem. & Soap Wks., Seattle, Wash.
Palmer Products, Inc., Waukesha, Wisc.
Per-Mo Products Co., '604 Woodland Ave., Kansas City, Mo.
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., Rochester, N. Y.
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
John Sunshine Chem. Co., 604 W. Lake St., Chicago
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
J. A. Tumbler Labs., 423 Hanover St., Baltimore
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

DRIP MACHINES

Ampion Corp., 47-02 5th St., Long Island City, N. Y.
Chemical Mfg. & Dist. Co., Easton, Pa.
Clifton Chemical Co., 62 William St., N. Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Garnet Chem. Corp., 911 N. Lumber St., Allentown, Pa.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hysan Products Co., 932 W. 38th Place, Chicago.
Palmer Products, Inc., Waukesha, Wisc.
Rochester Germicide Co., 16 Downing Pl., Rochester.
Geo. B. Robbins Dis. Co., 42 Charlton St., Boston
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
West Disinfecting Co., Long Island City, N. Y.

DRUM FILLING MACHINERY (see Filling Machinery, Drums)

DRUM WASHERS (see Washing Machinery, Drums)

DRUMS, STEEL (See Barrels, Steel)

DRY CLEANING SOAPS

Ampion Corp., 4-88—47th Ave., Long Island City, N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Beach Soap Co., Lawrence, Mass.
Chem. Mfg. & Dist. Co., Easton, Pa.
Davies-Young Soap Co., Dayton, O.
Dixo Co., 235 River Dr., Garfield, N. J.
Eagle Soap Corp., Huntington, Ind.
Eagle Soap Co., 205 Navy St., Bklyn.
J. Eavenson & Sons, Del & Penn Sts., Camden, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Haag Laboratories, Inc., 140th and Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce and Orthodox Sts., Phila.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hysan Prods. Co., 932 W. 38th Place, Chicago
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
Midland Chem. Labs., Dubuque, Ia.
National Oil Products Co., Harrison, N. J.
North Coast Chem. & Soap Wks., Seattle, Wash.
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Richards Sales Corp., Warren & Morris Sts., Jersey City, N. J.
Riverside Mfg. Co., 4919 Conn St., St. Louis
John T. Stanley Co., 642 W. 30th St., N. Y.
R. R. Street & Co., 561 W. Monroe St., Chicago
Swift & Co., Chicago
Texas Soap Mfg. Corp., 4905 Calhoun, Houston
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Ultra Chem. Wks., Inc., 2 Wood St., Paterson, N. J.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., Cincinnati, O.

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C. O. Bartlett & Snow Co., Cleveland
Buckeye Dryer Co., 131 W. Lake St., Chicago
Buffalo Forge Co., 490 Broadway, Buffalo, N. Y.
Buffalo Foundry & Machine Co., Buffalo, N. Y.
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
Drying Systems, Inc., 1800 Foster Ave., Chicago
Ellis Dryer Co., 2444 N. Pulaski Ave., Chicago
B. F. Gump Co., 431 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Lancaster Iron Works, Lancaster, Pa.
J. M. Lehmann Co., Lyndhurst, N. J.
Louisville Drying Equipment Co., Louisville, Ky.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
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Philadelphia Drying Mach. Co., Philadelphia
H. K. Porter Co., Oliver Bldg., Pittsburgh
Proctor & Schwartz, 7th St. & Tabor Rd., Philadelphia
C. G. Sargent's Sons Corp., Graniteville, Mass.
Ernest Scott & Co., Fall River, Mass.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
F. J. Stokes Machine Co., Philadelphia, Pa.
Struthers-Wells Co., Warren, Pa.
B. F. Sturtevant Co., Hyde Park, Boston

DUST COLLECTORS

Cyclone Blow Pipe Co., 2552 W. 21st St., Chicago
Dust Filter Co., 160 N. La Salle St., Chicago
Federal Classifier Systems, Inc., 127 N. Dearborn St., Chicago
Pangborn Corp., 10 Pangborn Blvd., Hagerstown, Md.
Sprayer Corp. of America, 5100 N. Ravenswood Ave., Chicago
Torit Mfg. Co., 8301 S. Vernon Ave., Chicago

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A. Kreamer, Inc., 307 Kent Ave., Brooklyn
F. H. Lawson Co., Cincinnati
National Can Corp., 110 E. 42nd St., N. Y.
Palmer Products, Inc., Waukesha, Wisc.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
White Mop Wringer Co., Fultonville, N. Y.

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Morpholine
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Diethanolamine
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P. Wohl & Sons, 85 Bayard St., N. Y.

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Hull Co., 305 Washington St., Brooklyn
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N. I. Malmstrom & Co., 147 Lombardy St., Bklyn.
Monsanto Chem. Co., St. Louis
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Natural Minerals Co., 108 W. 6th St., Los Angeles
Orbis Products Corp., 215 Pearl St., N. Y.
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Centflor Mfg. Co., 6 Varick St., N. Y.
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Special Double Pressed Cake for Candle Mfg.	53.9 54.3	5 7	103 105	3 max.	0.8 max.
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White Oleine (Redist. R/O)	10-12	90	99-100	1½ max. NPA	2%
Sap. Red Oil (Reg. Grade)	10-12	88-90	92-95	5-7 max. NPA	3% max.
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M. R. M. Co., 223 E. 106th St., N. Y.
Mandel Products, 207 Aston St., Newark, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pfaudler Co., Rochester, N. Y.
Pneumatic Scale Corp., North Quincy, Mass.
Scientific Filter Co., 12 Franklin Sq., N. Y.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia
U. S. Bottlers Machinery Co., 4025 N. Rockwell St., Chicago
The Vol-U-Meter Co., 707 Ohio St., Buffalo, N. Y.
Weigh Right Automatic Scale Co., Joliet, Ill.

FILLING MACHINERY (Liquids in drums, carboys, large cans, etc.)

Alsop Engineering Corp., 103 Green St., Milldale, Conn.
S. F. Bowser & Co., Ft. Wayne, Ind.
Clevon Products Co., 27-31 Mechanic St., Buffalo
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
M. R. M. Co., 223 E. 106th St., N. Y.

from Armour's **NEO-FATS**

better quality soaps
faster saponification
greater yield
greater economy

Fractionally distilled, Neo-fats are unmatched for purity and uniformity. Their high quality assures a better-finished, more neutral soap.

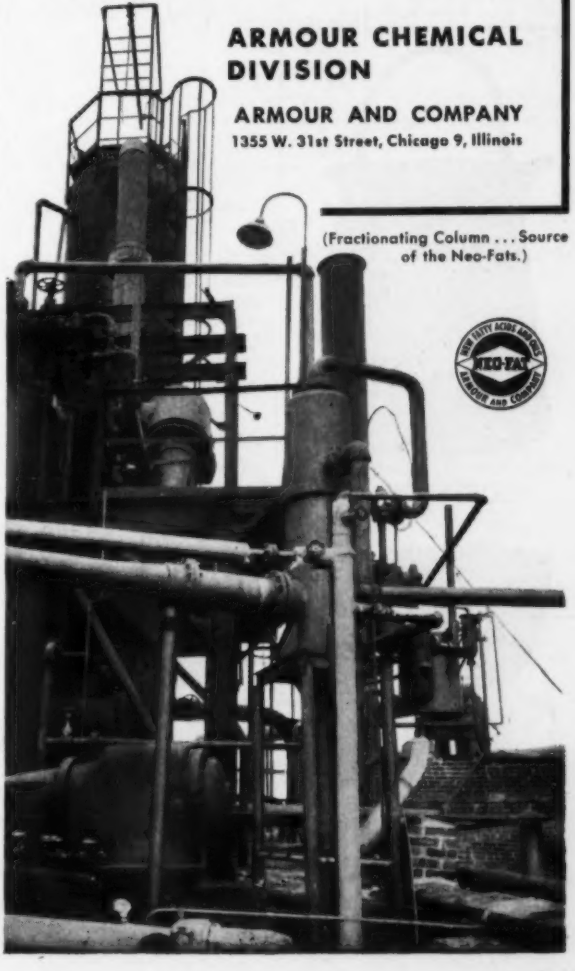
Saponification is complete and several times as fast as with natural fats . . . your present kettles can at least double your volume.

You can be sure of a consistently higher soap yield per pound of fat base than with whole fats . . . Neo-Fats as received require no further processing or refining.

The Neo-Fats greatly increase your production capacity while equipment costs, labor and other overhead costs remain almost constant.

Upon request, we'll gladly mail you complete details on the operating economies and quality products made possible by the Neo-Fats.

ARMOUR CHEMICAL DIVISION
ARMOUR AND COMPANY
1355 W. 31st Street, Chicago 9, Illinois

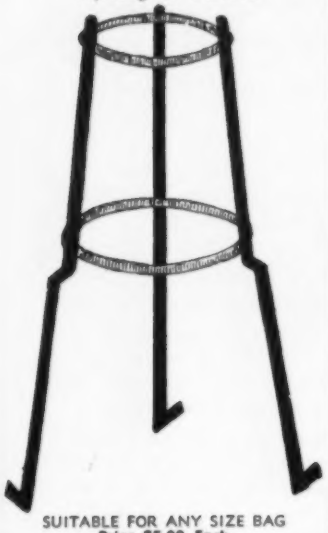


(Fractionating Column . . . Source of the Neo-Fats.)

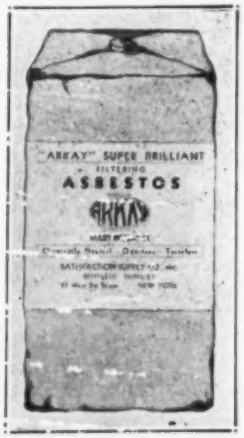
Bottling and Filtering Equipment

IRON FILTER STANDS

(Height 52")
Top Ring 15" Diameter



SUITABLE FOR ANY SIZE BAG
Price $5.00 Each



"ARKAY" FILTERING ASBESTOS

Packed in 1 lb. and 5 lb. Bags

Our Asbestos is chemically neutral, odorless and tasteless and will not affect even the most delicate wines.

1 lb. .... .85 5 lbs. .. 3.75

50 lb. bag at **60c.** per lb.

ARKAY FILTER POWDERS

DIATOMACEOUS EARTH

ARKAY No. 3 (White)—Coarsest
ARKAY No. 4 (White) — Fast Flow Rate
ARKAY No. 5 (Pink) — Fine Flow Rate
ARKAY No. 6 (Pink) — Finest for Polishing

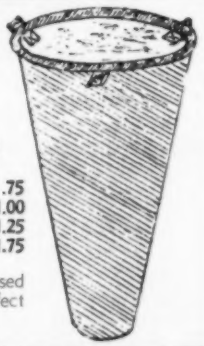
Packed in 50 Lb. Bags.
Price **$6.00** per 100 Lbs.
F.O.B. N. Y.

GLASS FUNNELS

RIBBED -- PRESSED

8 Oz.	.30
16 Oz.	.50
1 Quart	.70
½ Gallon	1.00
1 Gallon	1.25

FLANNEL FILTER BAGS



No. 1 - 2 Gals.	.75
No. 2 - 4 Gals.	1.00
No. 3 - 6 Gals.	1.25
No. 4 - 10 Gals.	1.75

Our "Arkay" Asbestos used with these Bags gives Perfect Results.

GRADUATES

GLASS

Made in accordance with specifications adopted by U. S. Bureau of Standards

½ Oz.	.45
1 Oz.	.55
2 Oz.	.60
4 Oz.	.75
8 Oz.	1.00
16 Oz.	1.50
32 Oz.	2.25

COPPER MEASURES

(Made of Heavy Copper—Tin Lined)

2 Gallons	$10.75
3 Gallons	12.00
5 Gallons	15.00

The 5 Gallon Measures are made with reinforced Bodies and Bottoms.

½ Pint	1.00
1 Pint	1.20
1 Quart	2.00
½ Gallon	3.25
1 Gallon	4.50

COPPER Sieve Valve Funnels

1 Pint	$2.25 ea.
1 Qt.	3.00 ea.
2 Qts.	4.50 ea.

BARREL FUNNEL

Copper Funnel

Shoulder pieces rest on barrel, allowing air to escape freely.

$6.75 ea.

5" diam.—1.20	9" diam.—3.50
6" diam.—1.30	10" diam.—4.00
7" diam.—1.80	12" diam.—4.95
8" diam.—2.75	

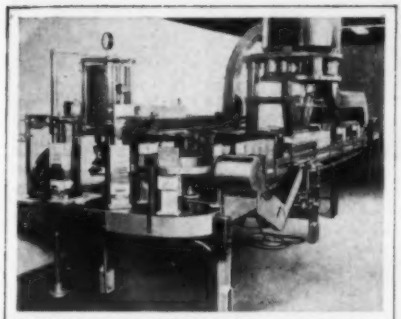
All Funnels Made of Heavy Gauge Copper - Tin Lined

Satisfaction Supply Co.—*Walter E. Koehler*

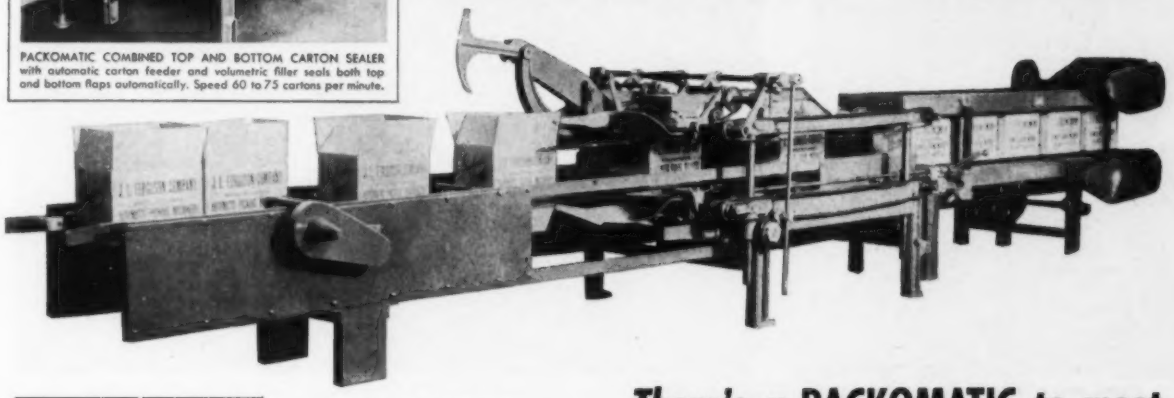
BOTTLERS SUPPLIES—PUMPS, FILTERS, ETC.

508 West Broadway — **New York 12, N. Y.**

PACKAGE FILLING *to* CONTAINER SEALING

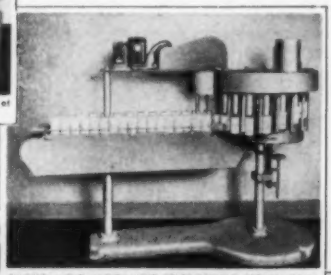


PACKOMATIC COMBINED TOP AND BOTTOM CARTON SEALER with automatic carton feeder and volumetric filler seals both top and bottom flaps automatically. Speed 60 to 75 cartons per minute.

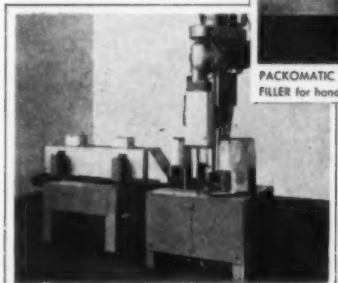


PACKOMATIC CASE IMPRINTER prints both ends of the case simultaneously, up to 20 per minute.

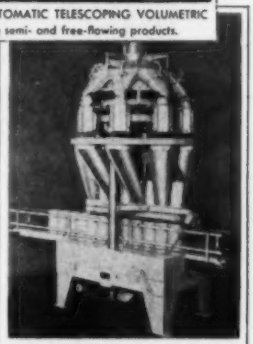
PACKOMATIC'S MODEL "D" CASE SEALER for paper shipping cartons. Seals tops and bottoms simultaneously—or tops, or bottoms only, if desired.



PACKOMATIC AUTOMATIC TELESCOPING VOLUMETRIC FILLER for handling semi- and free-flowing products.



PACKOMATIC'S AUTOMATIC AUGER PACKER—WEIGHER for semi- or non-free flowing products.



AUTOMATIC NET WEIGHT SCALE for metal & round paper cans, glass jars & rectangular containers.

There's a PACKOMATIC *to meet* YOUR *need!*

You'll find enthusiastic *performance reports* from the nation's foremost enterprises on PACKOMATIC packaging machines—from package forming and filling to shipping case sealing.

In fact, PACKOMATIC'S *new* Model "D" Shipping Case Sealer is a model of performance—50 to 3,000 cases per hour as required—squared, glued, sealed and ready for shipment or storage—quickly, efficiently, economically.

Then there's PACKOMATIC'S Combined Top and Bottom Carton Sealer with Automatic Feeder and Volumetric Filler. Seals both top and bottom flaps automatically, and operates at speeds up to 60 to 75 cartons per minute... Available in units to fill packages measured in ounces or pounds.

There's a wide range of PACKOMATIC packaging equipment...a wide scope of PACKOMATIC know-how.

Metropolitan Classified Telephone Directories give location of nearest PACKOMATIC office...or write Joliet.

Coupon below brings you colorful literature on PACKOMATIC Case Sealers, PACKOMATIC Carton filling and sealing machines, PACKOMATIC weighing equipment, etc. No obligation whatever for recommendations and suggestions.

PACKOMATIC

PACKAGING MACHINERY

J. L. FERGUSON CO. JOLIET, ILL.

Chicago • New York • Boston • Philadelphia • Baltimore • Cleveland
Denver • San Francisco • Los Angeles • Seattle • Portland • Tampa • Dallas

J. L. FERGUSON CO.
Joliet, Illinois

Please send complete data on ☐ Case Sealing ☐ Carton Filling and Sealing ☐ Package Weighing Equipment.

Company_____

Address_____

City_____ State_____

"S & S" FILLING • PACKAGING • WRAPPING EQUIPMENT

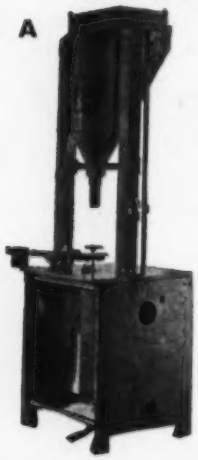
FOR SOAP POWDERS, CLEANSERS, INSECTICIDES, CHEMICALS

Filling cans of Mione Powdered Hand Soap with an S & S Universal Filler.

Packaging Hershey's Soap Granules on Stokes and Smith Machines.

For Small or Large Requirements—Semi-Automatic or Fully Automatic
"SPEEDS TO SUIT YOUR NEEDS"—15-30-60-120 Packages Per Minute

A



A. UNIVERSAL FILLING MACHINE
for Powders, Granular Products or Pastes. 15-20 Per Min.

B. AUTOMATIC FILLING MACHINE
Two or Four Station. 30-60-120 Per Min.

C. CARTON FILLING & SEALING MACHINE
15-30-60-120 Per Min.

D. TIGHT WRAPPING MACHINE
15-60 Per Min.

Investigate the S & S Auger-Vac Method of vacuum-auger filling for powdered products. Insures a clean dustless fill and a tight pack.

We will gladly send complete information. Write to:

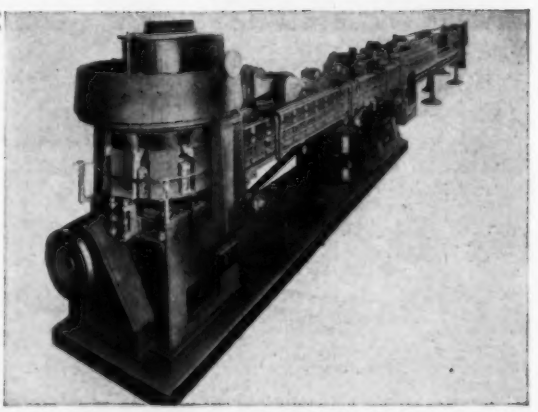
STOKES & SMITH Co

PACKAGING MACHINERY — PAPER BOX MACHINERY

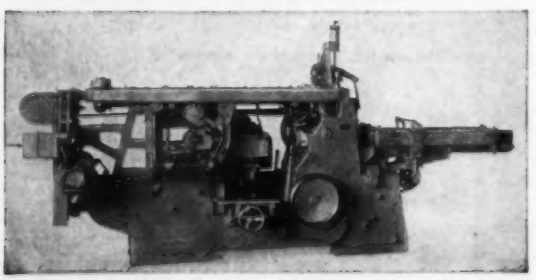
4915 SUMMERDALE AVE., PHILADELPHIA 24, U. S. A.

B

C



D



FILLING MACHINERY (Liquids in Drums) (Contd.)

Mandel Products, 207 Aston St, Newark, N. J.
National Acme Co., E. 131st St. & Coit Ave., Cleveland
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)

FILLING MACHINERY (Pastes, Cans)

Clevon Products Co., 27-31 Mechanic St., Buffalo
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
Filler Machine Co., 1250 E. Montgomery St., Phila.
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pfaudler Co., Rochester, N. Y.
Progressive Eng. Co., Torresdale, Pa.
Scientific Filter Co., 12 Franklin Sq., N. Y.
C. T. Small Mfg. Co., 1204 Ferguson Ave., St. Louis, Mo.
Sprague-Sells Corp., 308 W. Washington St., Chicago
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia
Triangle Package Machy. Co., 910 N. Spaulding Ave., Chicago
U. S. Bottlers Mchy. Co., 4015 N. Rockwell St., Chicago
Vol-U-Meter Co., 707 Ohio St., Buffalo, N. Y.
Weigh Right Automatic Scale Co., Joliet, Ill.

FILLING MACHINERY (Pastes, Drums)

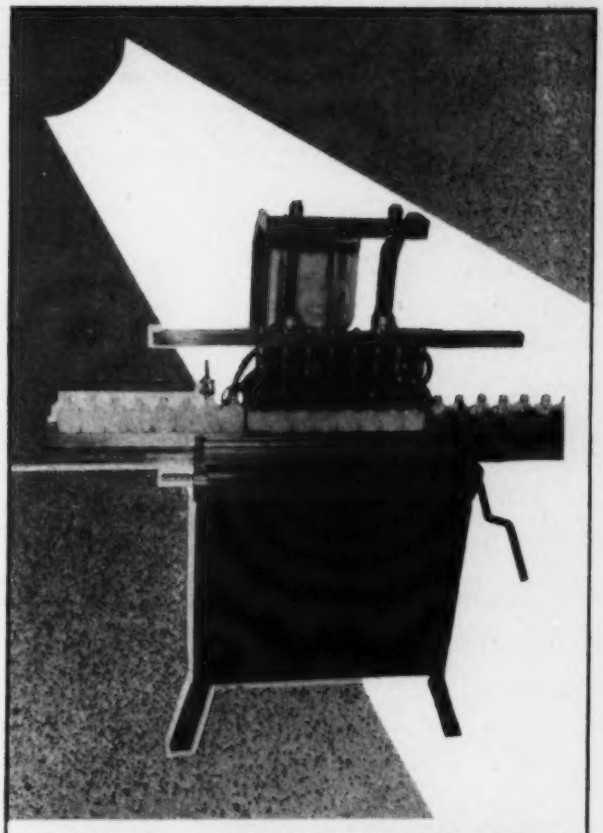
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Stokes & Smith Co., 4915 Summerdale Ave., Phila.

FILLING MACHINERY (Pastes, Tubes)

Clevon Products Co., 27-31 Mechanic St., Buffalo
Arthur Colton Co., Detroit, Mich.
Consolidated Prod. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Scientific Filter Co., 12 Franklin Sq., N. Y.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia

FILLING MACHINERY (Free flowing dry products)

Automatic Scale Co., 591 Hudson St., N. Y.
Consolidated Package Machinery Corp., 1400 West Ave., Buffalo, N. Y.
Consolidated Prod. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co, 1144 Harrison Ave, Cincinnati
J. L. Ferguson Co., Joliet, Ill.
First Machy. Corp., 157 Hudson St., N. Y. (Used)
B. F. Gump Co., 412 S Clinton St., Chicago
S. Howes Co., Silver Creek, N. Y. (Bbls.)
Johnson Automatic Sealer Co., Battle Creek, Mich
Modern Packaging Machy. Co., Danville, Ill.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
A H. Ross & Co., Ludlow, Ky.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
Sprout, Waldron & Co., Muncy, Pa.
F. J. Stokes Mach. Co., 5918 Tabor Rd., Philadelphia
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 906 N Spaulding Ave., Chicago
U. S. Automatic Box Mchy. Co., Roslindale, Boston, 31, Mass.
Weigh Right Automatic Scale Co., Joliet, Ill.



THE SPOTLIGHT IS ON...

MRM and its newest production . . . a Custom Built liquid filler.

Dripless, adjusted in five minutes to any shape or size of bottle from an Ounce to a Gallon . . . it fills 40 to 100 bottles per minute.

Lotions and Shampoos of any weight and texture liquid can be handled by this machine

Because of these special features, plus no manifold, automatic overflow, high speed . . . MRM is in the Spotlight.

M R M • designers - manufacturers
223 East 106th Street
New York 29, New York
LEhigh 4-0207-8

FILTER AIDS

Amer. Cyanamid & Chem. Corp., Rockefeller Plaza, N. Y.
Johns Manville Corp., 22 E. 40th St., N. Y.
Dicalite Co., 120 Wall St., N. Y.
Satisfaction Supply Co., 508 W. Bway., N. Y.
A. E. Starkie, 5461 W. Division St., Chicago
Tamms Silica Co., 229 N. La Salle St., Chicago
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.

FILTER CLAYS (see Clays)

FILTER CLOTHS

Abbott Associates, 417 Park Sq. Bldg., Boston
Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Cleveland Wire Cloth & Mfg. Co., 3574 E. 78th St., Cleveland
Filter Paper Co., 57 E. 24th St., Chicago
B. F. Gump Co., 431 S. Clinton St., Chicago
Wm. E. Hooper & Sons, Juniper & Cherry Sts., Philadelphia
Independent Filter Press Co., 189 Seventh St., Brooklyn
National Filter Cloth & Weaving Co., 220 E. 42nd St., N. Y.
Newark Wire Cloth Co., 223 Verona Ave., Newark, N. J.
Oliver United Filters, Inc., 33 W. 42nd St., N. Y.
J. T. Perkins Co., 669 Kent Ave., Brooklyn
Wm. R. Perrin & Co., 349 W. 23rd St., Chicago
Scientific Filter Co., 12 Franklin Sq., N. Y.
T. Shriver & Co., Harrison, N. J.
D. R. Sperry & Co., Batavia, Ill.

FILTER PAPER

Alsop Engineering Corp., 103 Green St., Milldale, Conn.
H. Reeve Angel & Co., 7 Spruce St., N. Y.
Filter Paper Co., 57 E. 24th St., Chicago
General Chemical Co., 40 Rector St., N. Y.
August Giese & Son, 121 E. 24th St., N. Y.
Karl Kiefer Machine Co., Cincinnati, O.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
Palo Co., 81 Reade St., N. Y.
Satisfaction Supply Co., 508 W. Bdway., N. Y.
Scientific Filter Co., 12 Franklin Sq., N. Y.
T. Shriver & Co., Harrison, N. J.

FILTER PRESSES

Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Consolidated Prods Co., 15 Park Row, N. Y. (Used)
Ertel Engineering Corp., Kingston, N. Y.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Independent Filter Press Co., 189 Seventh St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Oliver United Filters, Inc., 33 W. 42nd St., N. Y.
Patterson Foundry & Machine Co., East Liverpool, Ohio
Wm. R. Perrin & Co., 349 W. 23rd St., Chicago
Scientific Filter Co., 12 Franklin Sq., N. Y.
T. Shriver & Co., Harrison, N. J.
Sparkler Mfg. Co., 201 Lake St., Mundelein, Ill.
D. R. Sperry & Co., Batavia, Ill.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
United Filters Corp., Hazelton, Pa.

FILTERING MATERIALS (see also Clays, Filter Aids, and Decolorizing Carbon)

American Colloid Co., 363 W. Superior St., Chicago
Atlantic Refining Co., 260 Broad St., Phila.
Attapulgus Clay Co., 260 Broad St., Phila.
Dicalite Co., 120 Wall St., New York
Filtrol Corp., 315 W. 5th St., Los Angeles
Industrial Chem. Sales Div., West Va. Pulp and Paper Co., 230 Park Ave., N. Y
Innis-Speiden & Co., 117 Liberty St., New York
Johns-Manville Corp., 22 East 40th St., New York
Peerless Clay & Mineral Co., Pueblo, Colo.
Satisfaction Supply Co., 508 W. Bdway., N. Y.
A. E. Starkie, 5461 W. Division St., Chicago
Witco Chemical Co., 295 Madison Ave., N. Y.

FILTERS (Special)

Alsop Engineering Corp., 103 Green St., Milldale, Conn.
S. F. Bowser & Co., 1302 E. Creighton Ave., Ft., Wayne, Ind.
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
Cuno Engineering Co., Meriden, Conn.
Ertel Engineering Corp., Kingston, N. Y.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Foster Pump Wks., Inc., 54 Washington St., Brooklyn
Jacob House & Sons, 52 St. Paul St., Buffalo
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Lancaster Iron Works, Lancaster, Pa.
Mixing Equipment Co., 1067 Garson Ave., Rochester
Newman Tallow & Soap Machy. Co., 1051 W. 35 St., Chicago (Used)
Oliver United Filters, Inc., 33 W. 42nd St., N. Y.
Permutit Co., 330 W. 42nd St., N. Y.
Scientific Filter Co., 12 Franklin Sq., N. Y.
T. Shriver & Co., Harrison, N. J.
Sparkler Mfg. Co., 201 Lake St., Mundelein, Ill.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
U. S. Bottlers Machy. Co., 4015 N. Rockwell St., Chicago
Whiting Corp., Harvey, Ill.

FIRE EXTINGUISHER FLUID

Cole Laboratories, 23rd St. & 7th Av., L. I. City
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Wilmington, Del.
Fuld Bros., 702 S. Wolfe St., Baltimore
Prior Chem. Corp., 420 Lexington Ave., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Westvaco Chlorine Prod. Corp., 405 Lexington Ave., N. Y.

FIRE-PROOFING COMPOUNDS

Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Croton Chem. Corp., 114 Liberty St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Glyco Products Co., 26 Court St., Bklyn.
Arnold Hoffman Co., Providence, R. I.
Hysan Prods. Co., 932 W. 38th Place, Chicago.
Johns Manville Co., 22 E. 40th St., N. Y.
Monsanto Chemical Co., 1724 South Second St., St. Louis
Niacet Chemicals Corp., Niagara Falls, N. Y.
Per-Mo Products Co., 3604 Woodland Ave., Kansas City, Mo.
Price Fire & Water Proofing Co., Poughkeepsie, N. Y.
Protexol Corp., 32 Market St., Kenilworth, N. J.
Victor Chemical Works, 141 West Jackson Bldg., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

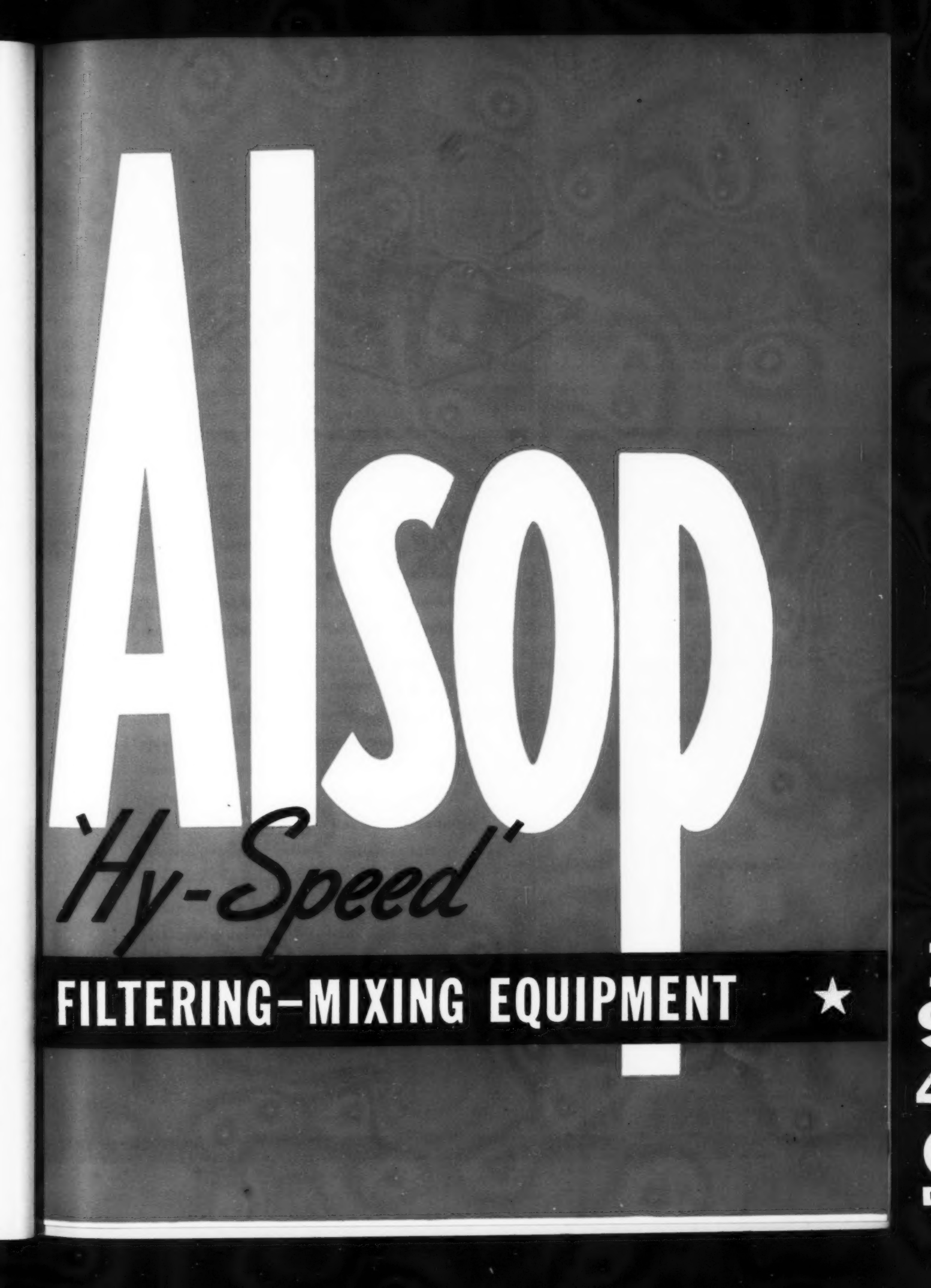
FISH OILS

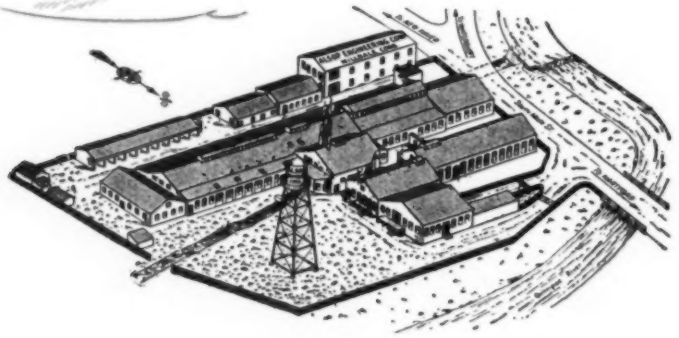
(see also Brokers and Dealers)

Atlantic Products Corp., Commercial Trust Bldg., Phila.
Atlas Refinery, Lockwood St., Newark, N. J.
Consumers Import Co., 350 Fifth Ave., N. Y.
Falk & Co., Pittsburgh
Hooker Electrochemical Co., Niagara Falls, N. Y.
Murray Oil Products Co., 21 West St., N. Y.
National Oil Products Co., Harrison, N. J.
Pacific Vegetable Oil Co., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Place, N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
A. E. Starkie Co., 5461 W. Division St., Chicago
Swan Finch Oil Corp., 30 Rockfeller Plaza, N. Y.
Arthur C. Trask Co., 4103 S. La. Salle St., Chicago
Welch, Holme & Clark Co., 563 Greenwich St, N. Y.

FISH OIL SOAPS

Crystal Soap & Chem. Co., 6300 State Rd., Phila.
Falk & Co., Pittsburgh 30, Pa.
James Good, Inc., 2116 E. Susquehanna Ave., Phila.
Hockwald Chem. Co., 135 Mississippi St., San Francisco


Alsop
'Hy-Speed'
FILTERING–MIXING EQUIPMENT ★



The products described in this catalog are manufactured in the modern manufacturing plant and foundry, owned and operated by the ALSOP ENGINEERING CORP. at Milldale, Connecticut.

These products result from 25 years of engineering and research devoted to solving the problems of the process industries. Many products which are now standard in process plants originated in our own engineering department.

Shown in this catalog are some of the filtering, agitating, mixing and storage units we have available. Our experience in adapting this equipment to requirements of various types of processing plants is extensive. This experience is available to you at any time through our complete engineering department and extensive sales force. There is no obligation involved in calling upon us for help.

Alsop

"Hy-Speed" *Sealed Disc* Filters

Alsop "Sealed Disc" Filters are designed for all general batch filtration work on such fluids as chemicals, plating solutions, liquid soap, liquid plastics, drugs, extracts, alcohol, syrups, perfumes, acids and water. Metals used in the filters depend upon the solutions to be handled, thus they are available made of Stainless Steel, Monel Metal, Nickel, Brass and Bronze or Iron and Steel. Because of the design features, "Sealed Disc" Filters assure best results in the quality and quantity of filtration as well as economy in operating and maintenance costs.

With "Sealed Disc" Filters the following advantages are obtained:

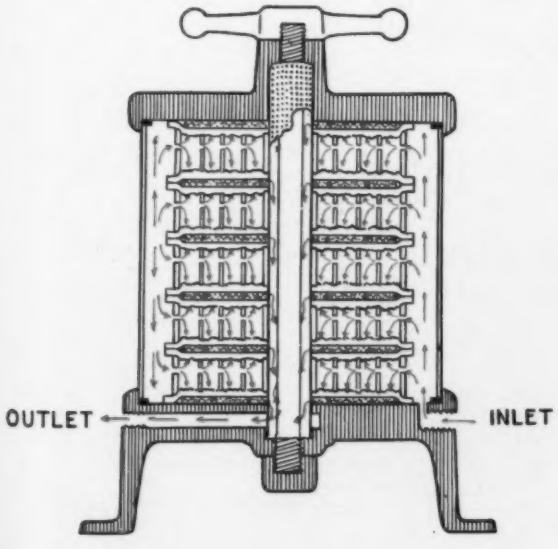
1. Washing of dirty filter cloths or bags is eliminated. Inexpensive, disposable filter discs are used.
2. Generally, there is no need to build a filter cake. When special mediums are needed, provision is made to handle them.
3. Loss of solution is eliminated. "Sealed Disc" Filters are leak, drip, and vapor-proof.
4. Skilled operators are unnecessary, as operation is exceedingly simple.

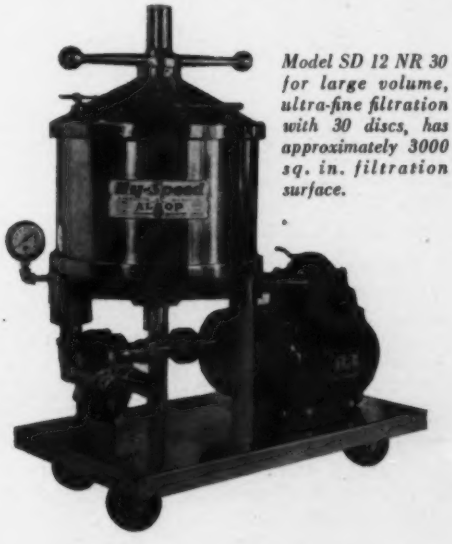
General Features

The principle of filtration used in "Sealed Disc" Filters accounts for the enormous filtration area and the resultant great capacity. The actual size of "Sealed Disc" Filters belies their great capacity. Here is how these amazing filters work:

Liquid comes into the filter from a pump or pressure line, fills the cylinder, and passes through holes provided in each of the sludge rings. Half of the liquid which enters each ring is then forced through the disc beneath it and the other half through the disc above. Sludge or sediment remains in the ring.

Filtered liquid from each disc enters directly into the perforated screen next to it and runs through channels in the screen to a common outlet screen in the center. Each disc acts as a separate, individual filter.

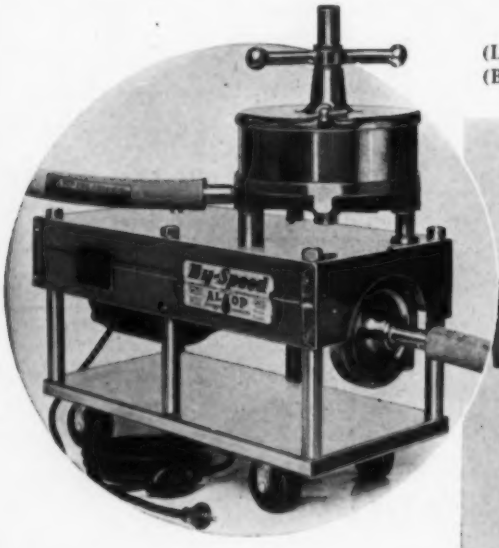




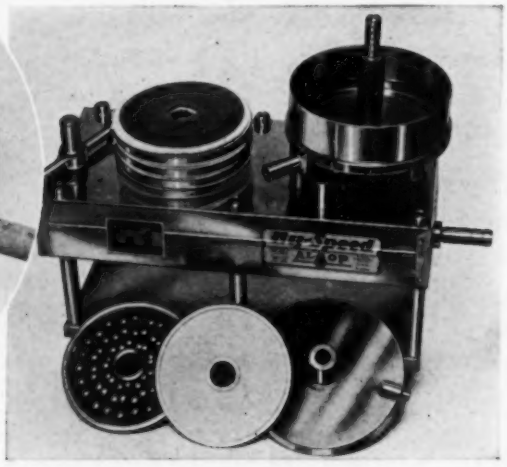
Model SD 12 NR 30 for large volume, ultra-fine filtration with 30 discs, has approximately 3000 sq. in. filtration surface.

Alsop

Sealed Disc Filters



(Left) *Model SD 8 NR 10 (closed) ready for use.*
(Below) *Same model open, showing simple assembly.*



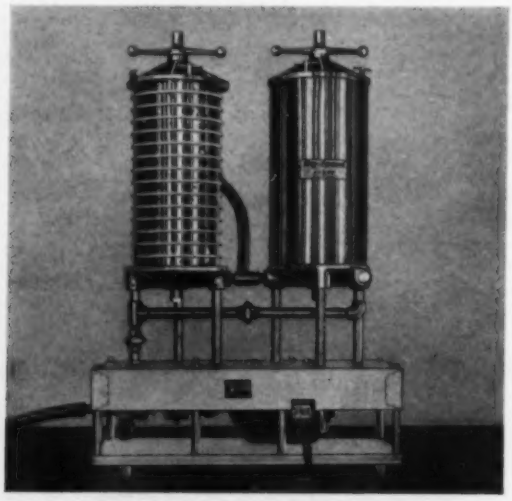
Alsop "Sealed Disc" Filters are available in a wide range of sizes and capacities to meet varied filtration requirements and these filters can be adapted to various processing methods. Because of the versatility of "Sealed Disc" Filters, suitable units can be provided to suit most space limitations.

"Sealed Disc" Filters are made in standard sizes ranging from small laboratory and pilot-plant filters to the largest production units.

Filters are mounted on stands with pump and motor unit when required. If portability is desired, the mounting stands are equipped with wheels. Where corrosive solutions are to be handled and where splashing is likely to be encountered, a special splash-proof assembly stand is available.

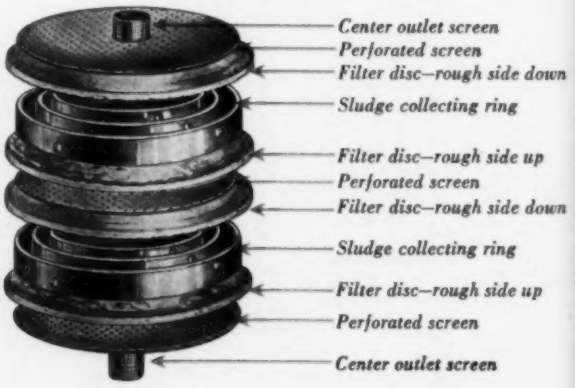
Bracket-type filters are available to connect to pipe lines or tanks where no pump is required. See page 2.

All "Sealed Disc" Filters provide maximum possible flow rate and solution turnover, or recirculation, with positive clarity and with a minimum of supervision and operating labor.



Two SD WR 30 Filters complete with pumps and motor mounted on splash-proof stand. Note large sludge collecting rings.

Unique Alsop "Sealed Disc" Filter Assembly

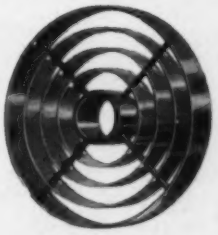


Alsop

Sludge Collecting Rings

Two types of sludge collecting rings are available. The narrow type ring is generally used on filtration jobs where no carbon or filtering powders are used, because the filter discs will remove all of the normal sediments and impurities encountered in ordinary filtration work.

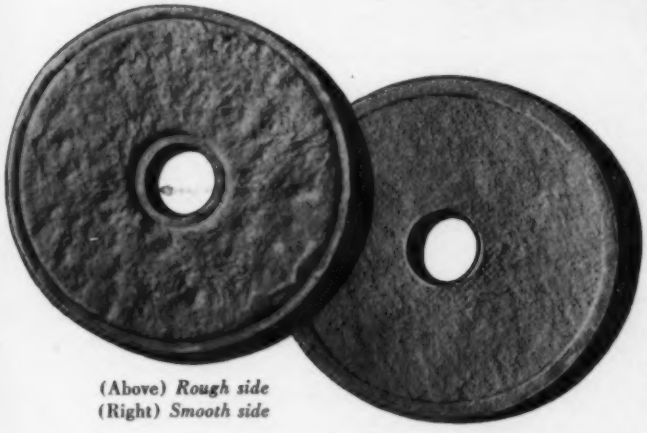
Narrow type



Wide type

The wide type ring, with plenty of room for sludge, is recommended for most solutions in which the use of purifying agents is necessary. It is also recommended with solutions which contain considerable sediment.

Filter Discs



(Above) *Rough side*
(Right) *Smooth side*

Each Alsop Filter Disc—the heart of Alsop Filters—is composed of dozens of layers of filter fibers. Fibers on the top (rough) side of each disc are long and loosely matted. Each succeeding layer contains shorter and more closely packed fibers.

The loose layers catch coarse particles of foreign matter, while each additional layer stops finer particles as they penetrate the disc. The final result is a perfectly clarified solution, free from all foreign particles and cloudiness.

The progressive density of Alsop filter discs prevents their clogging rapidly, in the manner of filter paper, blotting paper, cardboard or porous stone.

Alsop filter discs are made in many different densities. Their cost is considerably less than the labor costs alone involved in cleaning and changing filter mediums of other types.

Results from Alsop Disc Filtration

Crystal clear filtration results when using Alsop Hy-Speed Filters. These illustrations show some actual results.

•

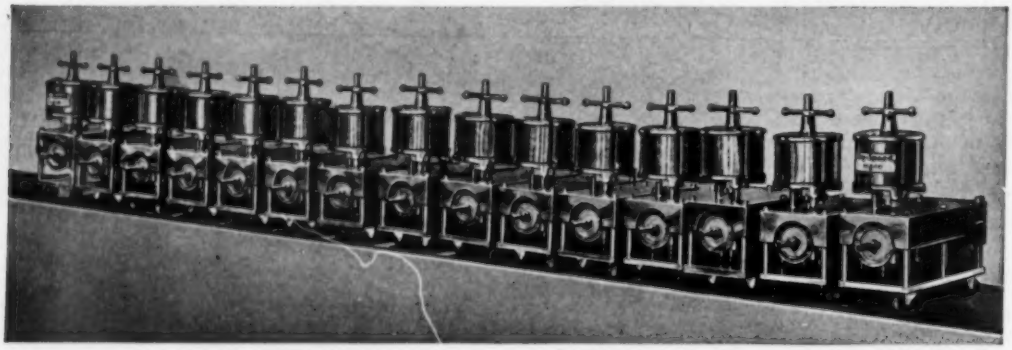
At the right are unretouched microphotographs (enlarged 600 diameters) of a solution before and after filtration with Alsop equipment.

Before filtration

After Alsop filtration

Alsop

"DISC-PAK" Filters



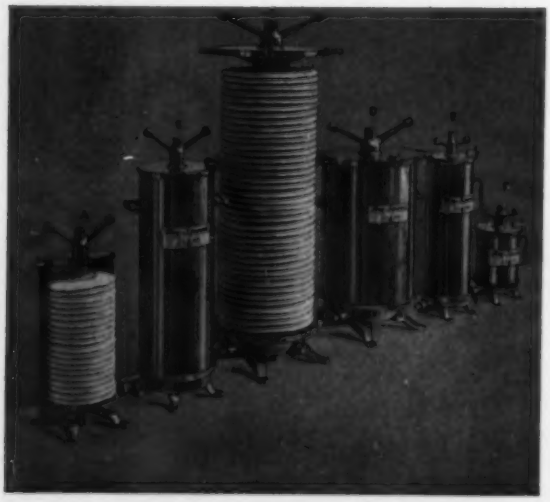
A battery of Alsop Filters for an installation requiring a filter for each of several tanks.

For many oil filtration problems we recommend the Alsop "Disc-Pak" Filter. This type filter is especially designed for fuel, lubrication and other kinds of oils used in Diesel and other engines, transformers, turbines, machine tool coolants and similar materials.

CRYSTAL CLEAR

The operation of "Disc-Pak" Filters is such that it is possible to filter oil crystal clear. By cleaning such oils, acid content is kept low by filtering out the materials which increase acids. Filtration also removes all sludge and prevents formation of new sludge.

Filter elements for "Disc-Pak" Filters are available in densities that will remove particles as small as one-millionth of an inch. It is positively proved that "Disc-Pak" Filters will not remove inhibitors or additives from oils.



LEAK-PROOF HOUSINGS

"Disc-Pak" Filters are leak, drip, and vapor-proof. The cover is held on by a handle that is tightened by hand. It is necessary only to remove the handle to change or clean dirty "Disc-Pak" cartridges. The simplicity of construction makes impossible any improper assembly of a "Disc-Pak." There are no pipe joints to disconnect, or loose washers or small pieces to complicate the assembly when cleaning the filter.

When necessary, "Disc-Pak" Filters can be supplied with pumps and motor units mounted on stands, with or without wheels. These stands can be made splash-proof when necessary.

MANY SIZES

"Disc-Pak" Filters are available in a wide variety of sizes and capacities to meet varied filtration requirements. Sizes range from small laboratory and pilot-plant filters to the largest production units.

A *Filter with 8" dia. cylinder, showing "Disc-Paks" and dual by-pass valves.*

B *Size 8 Filter with 3 No. 8 "Disc-Paks"*

C *Size 12 Filter with 4 No. 12 "Disc-Paks" has 8000 sq. in. filter surface.*

D *Size 12 Filter with 2 No. 12 "Disc-Paks."*

E *Size 6 Filter with 3 No. 6 "Disc-Paks" inside the 6" dia. cylinder.*

F *Size 6 Filter with one "Disc-Pak." Area 400 square in.*

Right — Tightly assembled "Disc-Pak" shown before compressing in a filter unit.

Alsop

Large Capacity Units

for Continuous Operation

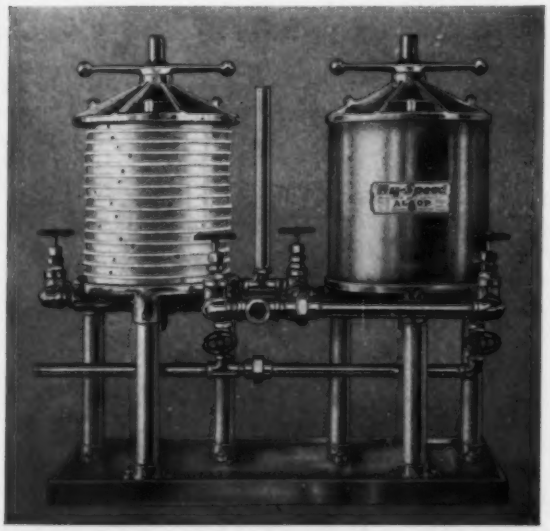
Where large filtration capacity is needed, and particularly where continuous or semi-continuous filtration is essential, multiple unit filters are recommended, because of their great flexibility.

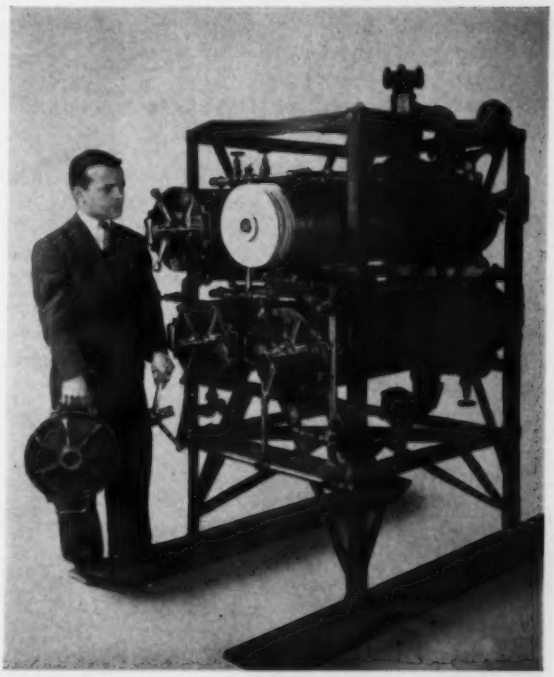
One advantage of multiple units is that the greatest possible filtration area and total capacity is provided within the smallest and most convenient space limits.

The maximum flow rate and solution turnover, or recirculation, with positive clarity is assured, with a minimum of supervision or operating labor.

When necessary, multiple unit filters can be furnished with built-in, fully protected pump and motor units completely assembled for extreme portability, ready for instant use wherever needed. The two types of large capacity units shown below are indicative of the wide variety of multiple unit filters available.

Multiple unit with two SD NR 30 Filters with individual flow control.

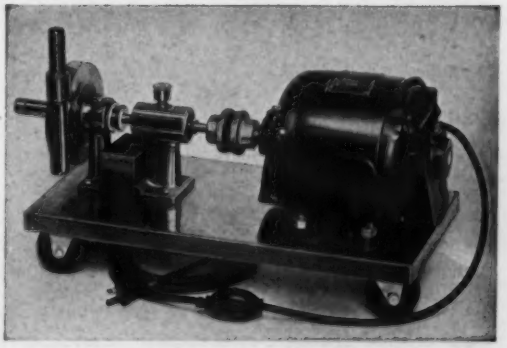




"Hy-Speed" Centri-Poise Pumps

When pumping is required with Alsop Filters, they are equipped with portable pump units. These Centri-Poise pumps, with capacities of from two to fifty gallons per minute, are so designed that there is only one moving part in the liquid, and there are no metal-to-metal contacts. These features eliminate wear from abrasion or dirt. Outboard, dust-sealed ball bearings take the entire load, giving long life to the entire unit.

These efficient pumps are mounted on portable stands for most uses, but are also available as separate units for general service, handling all types of liquids.



Pump and motor mounted on casters for portable use. Also available for permanent installations.

Alsop

"Hy-Speed" Mixers

"Hy-Speed" electric mixers provide high standards of mixing efficiency when liquids, liquids and solids, or liquids and gases are processed. Alsop makes many standard types of mixers, but is prepared to design special types of mixers for specific jobs.

"Hy-Speed" mixers can be applied to existing tanks, whether these tanks be open or closed; pressure cookers; vacuum tanks; stills, and other types of equipment, regardless of size or capacity.

Sizes of mixers range from small laboratory mixers to those for slow-speed heavy-duty service requiring up to 30 horsepower, and with speeds from less than 250 r.p.m. up to 1800 r.p.m. Standard mixers include portable, fixed side-entering, and fixed vertical.

PORTABLE MODELS

Portable "Hy-Speed" mixers are designed for rim mounting on open vessels. Because of their portability and the ease with which they are attached, it is often practical to use one mixer for several tanks.

Universal Swivel Clamp

The swivel clamp used on all portable models permits adjusting the shaft to any angle with the vertical and any arc of the circle right or left of tank center. This provides for selection of a suitable mixing action. Even the largest sizes of portable mixers can be moved from location to location by means of portable cranes.

Propeller Combinations

Many types and combinations of propellers are available for specific purposes. Some of these types are: Push, push-pull, studded, cutout, perforated, saw-tooth, folding and others of the whisk and cage beater types. Our engineering department will be glad to recommend the proper propeller combination for your particular jobs.

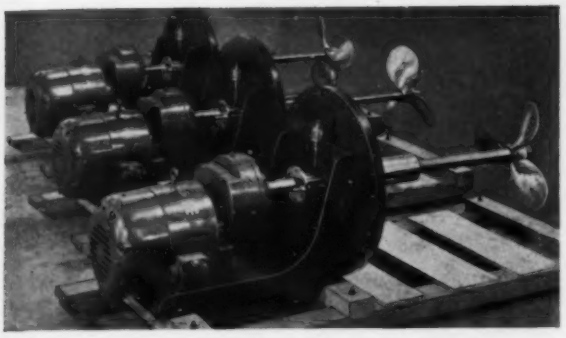
In this plant, the adaptability of "Hy-Speed" Portable Electric Mixers is put to good use. A steam-jacketed tank is mixed thoroughly.

Standard type mixer which is available in all sizes from ¼ h.p. up.

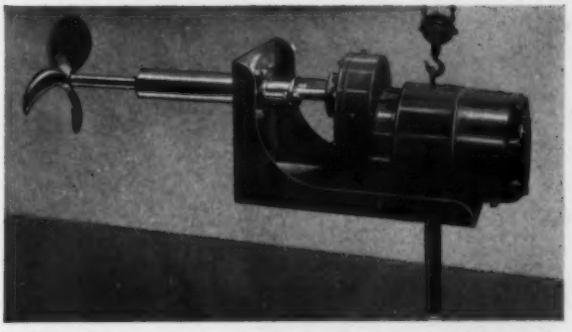
Alsop

"Hy-Speed" Built-In Mixers

Fixed Side-Entering Agitators



A battery of 25 h.p. explosion-proof side-entering agitators complete with companion flanges, ready for bolting to tanks.

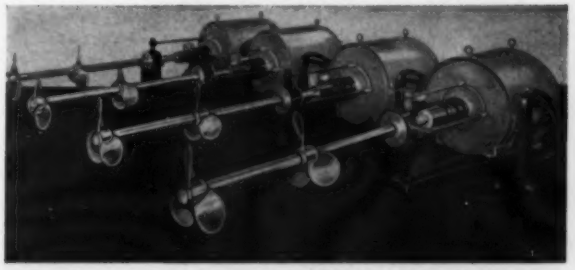


This 30-h.p. model Alsop side-entering agitator is equipped with a fully enclosed weatherproof motor to suit it for outdoor use.

Many processes involving agitation require the use of a side-entering propeller unit. Proper engineering is essential in such installations if exact results are to be obtained.

Factors involved in such processes include size, area, pitch and speed of propeller; their position in relation to tank walls, sides and bottom so as to gain every advantage from the most efficient directional flow or stream. Other factors are the power required to obtain the requisite turnover of tank contents, the type of drive or power transmission best adapted to the location and space available or accessibility required.

Our extensive experience in designing mixers for any type of service has resulted in a wealth of information and ideas in the agitating and mixing field. Many special types of equipment are available for your special problems.



Propeller shafts on these specially designed 25 h.p. Mixers can be positioned at any angle from the dead vertical to horizontal.

VERTICAL TYPES

Available also are Alsop "Hy-Speed" Mixers of the vertical mounted type for mounting through tops of closed tanks. These standard units can be adapted for special requirements with a minimum of special designing and engineering.

In this battery of top-entering mixers, specifications called for slight and graduating variations of the angle at which propeller shafts entered the flanged tank openings. A completely assembled unit is shown at the extreme left.

Alsop

"Hy-Speed" Complete Mixing Tanks

Where there is a need for complete, self-contained mixing units, Alsop "Hy-Speed" glass-coated electric mixing tanks meet most needs. Glass-coated inside and out, these tanks are easily cleaned.

MOTOR FULLY PROTECTED

The mixing unit is mounted in such a way that all danger of spilled liquids damaging electrical connections is removed. This mounting also protects the mixing unit from careless handling. The motor utilizes what would be waste space and reduces overall floor space for the complete tank.

This construction permits use of "push-pull" propellers, which mix both top and bottom contents at the same time. Time required for thoroughly mixing a batch is thereby reduced.

Propellers can be adjusted to any position on the shaft to obtain the best mixing action.

Mixing shafts, propellers and crevice-free glass coatings can be cleaned thoroughly and quickly.

STANDARD SIZES

Standard "Hy-Speed" glass-coated mixing tanks with open tops are made in 5, 15, 30, 60, 100, 150 and 200 gallon mixing capacities. These sizes are generally available from stock.

Special shapes and sizes can be manufactured to your order when required.

Tanks equipped with special brackets to which portable electric mixers can be clamped also are available.

NOTE...

Be sure to specify type of electric current used and give complete information regarding type and thickness of liquids to be mixed.

(Left to Right) *Alsop complete mixing tanks, both open and closed types, having capacities of 50 gal., 15-18 gal., and 5-7 gal., respectively.*

Alsop

Glass-Lined Storage Tanks

Alsop glass-lined storage tanks are sanitary and have the added feature of looking sanitary. Their steel construction — glass-lined — makes practical the storing and processing of nearly every kind of liquid product.

STANDARD SIZES (*Approximate*)

Open Top Tanks			Closed Top Tanks		
Gal.	Dimensions	Outlet	Dimensions	Outlet	Lid.
30	21 x 23½	¾"	20½ x 24½	¾"	12"
50	24 x 29½	1"	22¾ x 30½	1"	15"
60	23½ x 35½	1"	23 x 36½	1"	15"
100	28 x 41½	1"	27½ x 42½	1"	15"
150	31½ x 47½	1"	31 x 48½	1"	15"
200	33 x 59½	1"	32 x 60½	1"	15"

FEATURES

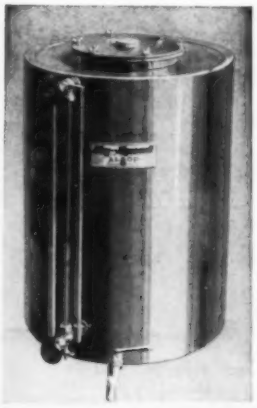
Triple-Glass Coating — Three separate coats of glass are fused on the metal at white heat. This heavy coating gives extreme durability, resists all types of wear and preserves contents from metal contamination.

Outside Coating — Appearance of Alsop tanks is enhanced by glass-coating the outside surfaces. This also reduces the maintenance cost, as frequent repainting is not necessary.

SPECIAL TANKS

Alsop can manufacture any type of glass-coated equipment to meet special needs. Among the shapes we have made are round, square, oblong, cone-bottom; types made include open, closed, vapor-proof, pressure and water jacketed, and with any number and type of outlets.

Locking devices can be supplied on outlets, gages and covers when necessary for storing valuable products or to meet government regulations.



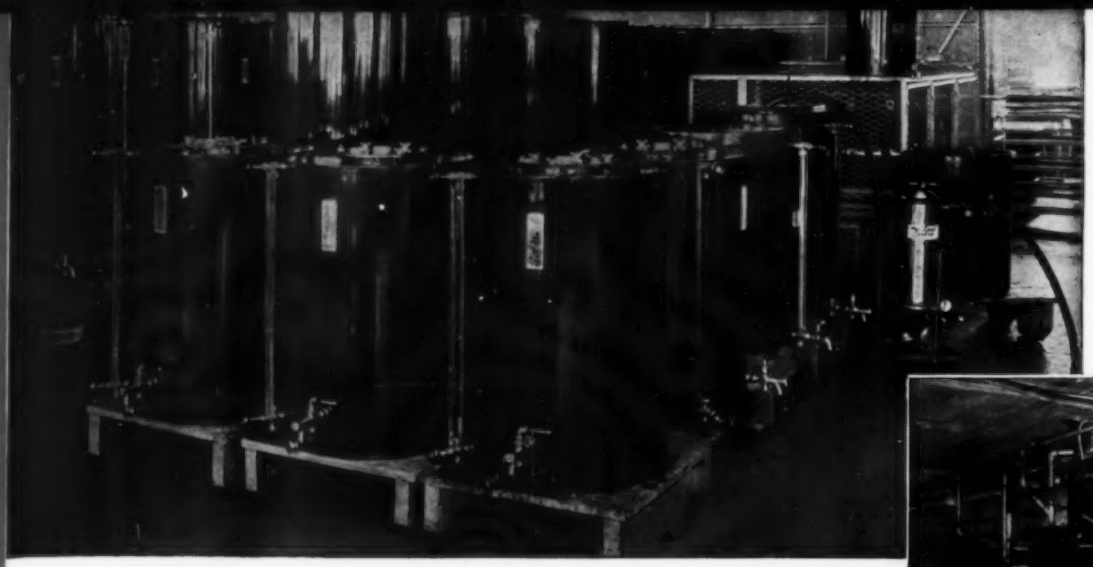
AIR-TIGHT TANKS

Air-tight storage tanks have a one-piece fully-enclosed vapor-proof top with a 15-in. manhole. The removable glass-coated manhole cover has a 2-in. hole in the center for filling. The hole can be sealed with a rubber stopper.

All stock closed tanks have fittings to which a liquid level gage can be attached.

SETTLING TANKS

Alsop Settling Tanks are equipped with two faucets — one above the other. Clear liquid is drained through the top faucet. Any sediment then can be drained through the bottom spigot. Tanks can be made with one or more outlets in any desired position.

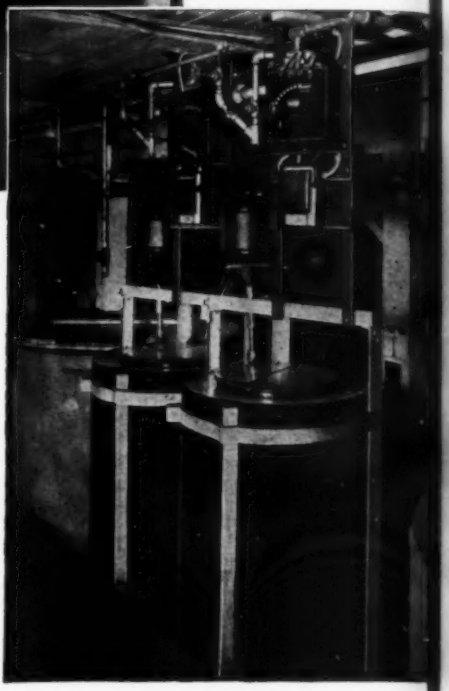


In Service

(Above) *This installation of Air-Tight Glass-Coated Settling Tanks, filled through a "Hy-Speed" Internal Pressure Filter, insures a product of utmost purity and polish.*

(Left) *A twin-mounted Size 12 Filter mounted on splash-proof stand with pump provides filtering surface of 16,000 square inches (110 sq. ft.)*

(Right) *Two enclosed mixing tanks with separately mounted mixers are examples of special types which Alsop is prepared to manufacture quickly.*



Engineering Service, Without Obligation

Our engineering department is always ready to help you in your processing problems. In requesting information or quotations on tanks, please give capacity and shape and types of fittings required. For filters and mixers supply us with the following information:

FILTERS

Solutions to be filtered
Viscosity of liquids
Nature of solids
Approximate percentage of solids
Minimum g.p.m. required
Maximum g.p.m. required
Is filtration to be continuous
Total gallons per batch or per day
Filter temperature
pH and other pertinent facts

MIXERS

Nature of liquid and ingredients
Is liquid thin, thick, hot or cold
Does consistency change
Is slow, rapid or violent agitation required
Are solids dissolved or kept in suspension
Is material flammable or explosive
Will mixing be continuous or intermittent
Will mixer be used on one tank or several
Give size of tanks, amount of liquid to mix and electric supply characteristics

★ ALSOP ENGINEERING CORPORATION

MILLDALE . . . CONNECTICUT

Cat. No. 745
Printed in U.S.A.

FISH OIL SOAPS (Contd.)

R. M. Hollingshead Corp., Camden, N. J.
National Oil Products Co., Harrison, N. J.
Newell Gutradt Co., 350 Fremont St., San Francisco
North Coast Chem. & Soap Works, Seattle, Wash.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Schaeffer Bros. & Powell Mfg. Co., 102 Barton St., St. Louis.
Silmo Chemical Co., Vineland, N. J.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Thompson-Hayward Chem. Co., Kansas City, Mo.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

FLAKE SOAPS (see CHIP SOAPS)

FLOATING SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. La Salle St., Chicago
J. Eavenson & Sons, Camden, N. J.
Haskins Bros. & Co., Omaha
Hewitt Soap Co., Dayton, Ohio
Iowa Soap Co., Burlington, Iowa
Lightfoot Schultz Co., 663 Fifth Ave., N. Y.
Procter & Gamble Co., Cincinnati
Geo. A. Schmidt & Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
M. Werk Co., Cincinnati, O.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

FLOOR FINISHES (Non-Wax)

Ampion Corp., 4-88—47th Ave., Long Island City, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Candy & Co., 2515 W. 35th St., Chicago
Chemical Compounding Corp., 262 Huron St., Bklyn.
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Davies-Young Soap Co., Dayton, O.
Delta Chem. Co., 4 Payson Ave., N. Y.
Eagle Soap Corp., Huntington, Ind.
Empire Chemical Prods. Co., 10 Longworth St., Newark, N. J.
Federal Varnish Co., 337 S. Peoria St., Chicago
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
P. D. George Co., 5200 N. 2nd St., St. Louis
Higley Chemical Co., Dubuque, Iowa
Hockwald Chemical Co., 135 Mississippi St., San Francisco
House of Milo, 628 N. 9th St., Birmingham
Hysan Prods. Co., 932 W. 28th Place, Chicago.
La Maison Prods., Inc., 80 York St., Brooklyn
Lewis Soap & Chem. Co., Oakland, Calif.
Midland Labs., Dubuque, Iowa
National Oil Products Co., Harrison, N. J.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Products Co., St. Louis
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Shawmut Specialty Co., 313 Centre St., Boston
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
L. Sonneborn Sons, Inc., 88 Lexington Ave., N. Y.
S. S. Stafford, Inc., 603 Washington St., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Twin City Shellac Co., 340 Flushing Ave., Brooklyn

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- *Rich Carnauba Base*

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2705 ARCHER AVE. CHICAGO, ILL.

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Sealers, Finishes and Waxes

for Every Type of Surface

Federal Floor Preservatives and Polishes are highly perfected products. They are the result of constant research, both in the laboratory and in practical usage. They are specialized products made by America's largest manufacturer of Preservatives and Polishes selling in bulk.

The Federal Line—a quality product for every purpose and every surface.

NO-BURN GYM FINISH

An extremely hard, durable finish that will not rubber-burn on gymnasium floors and which has such remarkable resistance to wear and abuse, it can be used on all types of interior or exterior surfaces including dance floors, school furniture, desks, seats, etc. Applied with a lamb's wool mop, applicator or cheesecloth pad.

G.F.B. CONCENTRATED BASE COLORS

Highly perfected concentrated base colors for use with No-Burn Gym Finish to impart colors as well as extreme durability on wood, concrete and cement surfaces. Made in Light Oak, Dark Oak, Light Gray, Dark Gray, Walnut, Maroon, Green. Also made in ready mixed form.

FED-CO PENETRATING SEALER

This is a highly specialized penetrating sealer for wood floors. Seals wood pores, makes a harder, longer wearing floor that is easy to clean. Meets the conditions and requirements of large organizations operating chain units. Applied by spraying or large lamb's wool applicator. Forms a hard, durable finish that will not stain merchandise accidentally dropped on it.

PENETROIL SEALER

A penetrating sealer, very pale in color, that can be used for sealing either new surfaces or surfaces that have been formerly sealed. It properly fills the pores and is resistant to water.
Especially recommended as a sealer type material for use where subsequent coats of wax are to be applied.

TERRAZZO SEALER

The perfect sealer for terrazzo and marble floors. Reduces cost of maintenance. Prevents penetration of dirt. Very pale.

MOP-VAR

A Penetrating Sealer to be applied with a mop or other applicator. Reduces maintenance and application costs. For wood, concrete, hard mastic or magnesite, cork and cork tile.

LIGHTNING LUSTRE

A wear and water resisting, self-polishing, high lustre carnauba wax base finish of highest quality. For linoleum, congoleum, wood, rubber tile, soft composition and for maintenance of practically any surface.

LIQUID OIL BASE WAX

A wax of the oil base type. Applied with a mop or applicator. Buffs and polishes beautifully. A superior product of its type.

No. 70 RESTORER

Cleanses sealed floors of dirt, dust, grease, rubber burns and other disfigurations, imparts a fine lustre and saves much time over ordinary operations. Ideal for sealed wood, cement, linoleum and other surfaces.

RUBBER BURN CLEANER AND REVIVER

For removing stubborn burns from gymnasium, classroom, bowling alley, sealed wood, linoleum, cement, tile and other floors. Quickly removes, difficult to clean, marks caused by new type adulterated rubber heels and soles. Revives appearance of finish.

MASTIC TILE SEALER

Seals the tile against dirt, dust, grease, etc. Makes the surface easy to keep clean, reduces scrubbing and prolongs the life of the tile.

GYM FINISH MARKING ENAMELS

Another Federal specialized product made for marking hand ball courts, basket ball floors, running lanes, etc. Has the remarkable wearing quality of Gym Finish and possesses great covering and hiding power. Made in White, Red, Black, Yellow, Blue, Green, Tan, Ivory, Orange and Jade.

STREET MARKING OR TRAFFIC PAINT

A rapid drying paint for marking traffic lanes, parking spaces and similar uses. For both inside and outside use. Dries for traffic use in 30 minutes. Has remarkable wearing quality necessary for a product of this kind.

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PASTE WOOD FILLERS AND VARNISH REMOVERS

Our laboratories are constantly developing new products and perfecting new methods and treatments for beautifying and preserving all floor surfaces. Write for complete information, testing samples and prices.

FEDERAL VARNISH COMPANY

Dept. 460, 331-337 SO. PEORIA STREET, CHICAGO, ILL.

FLOOR FINISHES, Non-Wax (Contd.)

Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Victory Chem. Co., 148 Fairmount Ave., Phila.
T. F. Washburn Co., 2244 Elston Ave., Chicago

FLOOR MACHINES

Adams Prods., Inc., 248 W. Fairfield Ave., St. Paul
Amer. Floor Surfacing Mach. Co., Toledo, O.
Electric Sprayit Co., Sheboygan, Wis.
Fay Co., 279 Fifth Ave., N. Y.
Finnell System, Inc., Elkhart, Ind.
General Floorcraft Corp., 333 Sixth Ave., N. Y.
Hild Floor Machine Co., 1313 W. Randolph St., Chicago
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Kent Co., Rome, N. Y.
S. C. Lawlor Co., 122 N. Aberdeen St., Chicago
Lincoln-Schlueter Floor Machy. Co., 220 W. Grand Ave., Chicago
Ponsell Floor Machine Co., 220 W. 19th St., N. Y.
Rex-Cleanwall Corp., Brazil, Ind.

FLOOR SCRAPERS

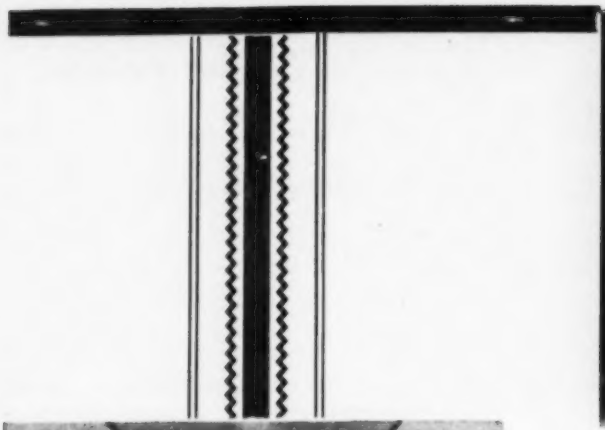
Churchill Mfg. Co., Galesburg, Ill.
A. F. Dormeyer Mfg. Co., 2640 Greenwich Ave., Chicago
Greenview Mfg. Co., 2557 Greenview Ave., Chicago
Lincoln-Schlueter Floor Machy. Co., 512 S. Peoria Ave., Chicago
Palmer Products, Inc., Waukesha, Wisc.
White Mop Wringer Co., Fultonville, N. Y.

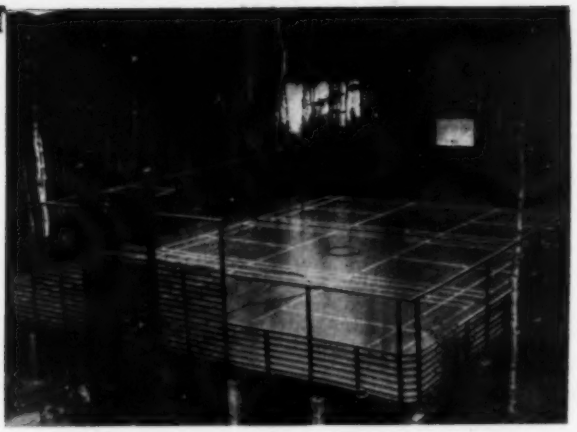
FLOOR SCRUB SOAPS (see also Potash Soaps)

American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 47-02—5th St., Long Island City, N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Baird & McGuire, Inc., of Mo., St. Louis
Banner Chem. Prods. Co., 60 Elm St., Newark, N. J.
Baum's Castorine Co., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 109 Avenue L, Newark, N. J.
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Candy & Co., 2515 W. 35th St., Chicago
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Churchill Mfg. Co., Galesburg, Ill.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
Davies-Young Soap Co., Dayton, O.
Delta Chem. Co., Payson Ave., N. Y.
Eagle Soap Corp., Huntington, Ind.
Eagle Soap Co., 205 Navy St., Bklyn.
Empire Chem. Prods. Co., 12 Longworth Ave., Newark, N. J.
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Gaskill Products, 9 S. Letitia St., Phila.
James Good, Inc., 2116 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th and Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hubman Supply Co., 225 N. 4th St., Columbus, O.
House of Milo, 628 N. 9th St., Birmingham
Hysan Prods. Co., 932 W. 38th Place, Chicago.
Kranich Soap So., 60 Richards St., Brooklyn
Lewis Soap & Chem. Co., 2210 San Pablo Ave. Oakland, Calif.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
Midland Labs., Dubuque, Iowa
National Oil Products Co., Harrison, N. J.
Peck's Prods. Co, 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Puritan Chem. Co., Atlanta, Ga.
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
R. G. A. Laboratories, 145 W. 45th St., N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., Rochester, N. Y.
Sanitary Soap Co., 104 Railroad Av. Paterson, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
S. S. Stafford, Inc., 603 Washington St., N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Swift & Co., Chicago
Texol Chemical Works, 3 Winter St., Worcester, Mass.
Thompson-Hayward Chem. Co., Kansas City, Mo.
J. A Tumbler Labs., 423 Hanover St., Baltimore
Twi-Laq Chemical Co., N. Portland Ave., Bklyn.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Universal Chem. Corp., Akron, O.

FLOOR WAXES

American Wax Co., 13-26 128th St., College Point, L. I.
Ampion Corp., 47-02—5th St., Long Island City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Banner Chemical Products Co., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 109 Ave. L, Newark, N. J.
Buckingham Wax Corp., Van Dam St., & Borden Ave., L. I. City, N. Y.
Candy & Co., 2515 W. 35th St., Chicago
Cary Mfg. Co., 4917 E. Michigan St., Indianapolis
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Service Co., Baltimore
Chemical Mfg., Dist. Co., Easton, Pa.
Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods., Co., 3100 Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Davies-Young Soap Co., Dayton, O.
Delta Chem. Co., 4 Payson Ave., N. Y.
Dri-Brite, Inc., 4443 Cook Ave., St. Louis
Economics Laboratory, St. Paul
Empire Chemical Prods. Co., 10 Longworth St., Newark, N. J.
Federal Varnish Co., 337 S. Peoria St., Chicago
Fox Lake Wax Co., Fox Lake, Ill.
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2116 Susquehanna Ave., Phila.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
House of Milo, 628 N. 9th St., Birmingham
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hunt Mfg. Co., Lisbon Rd, Cleveland
Hysan Prods. Co., 932 W. 38th Place, Chicago.
H. Krevit & Co., 11 Albert St., New Haven, Conn.
La Maison Prods., Inc., 80 York St., Brooklyn
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
Midland Labs., Dubuque, Iowa
M. & H. Laboratories, 2703 Archer Ave., Chicago
Oil Specialties & Refining Co., 109 Walworth St., Bklyn.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods., 5240 N. 2nd St., St. Louis
Perrow Chemical Co., Hurt, Va.
Puritan Chem. Co., Atlanta, Ga.
R. G. A. Laboratories, 145 W. 45th St., N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Shawmut Specialty Co., 313 Centre St., Boston
Slick-Shine Co., 207 Astor St., Newark, N. J.
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
S. S. Stafford, Inc., 603 Washington St., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco





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H. F. Staples Co., Medford, Mass.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Texol Chem. Wks., 3 Winter St., Worcester, Mass.
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Tw-Lac Chemical Co., 25 N. Portland Ave., Brooklyn
Twin City Shellac Co., 340 Flushing Ave., Brooklyn
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 435 Western Ave., Chicago
Universal Chem. Corp., Akron, O.
Victory Chem. Co., 148 Fairmount Ave., Phila.
T. F. Washburn Co., 2244 Elston Ave., Chicago
Wilco Co., 6800 McKinley Ave., Los Angeles
Windsor Wax Co., Inc., 611 Newark St., Hoboken, N. J.

FLOTATION OILS

Armour & Co., 1355 W. 31st St., Chicago
Atlantic Refining Co., 260 S. Broad St., Phila.
Barrett Co., 40 Rector St., N. Y.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Cliffs Dow Chemical Co., Marquette, Mich.
Crosby Naval Stores, Picayune, Miss.
Darling & Co., 4201 S. Ashland Ave., Chicago
Emery Industries, 4300 Carew Tower, Cincinnati
Glidden Co., Southern Pine Chem. Co. Div., Jacksonville, Fla.
A. Gross & Co., 295 Madison Ave., N. Y.
Hardwood Chemical Co., 2 Jersey St., Buffalo, N. Y.
Hercules Powder Co., Wilmington
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Koppers Co., Koppers Bldg., Pittsburgh
National Aniline & Chemical Div., 40 Rector St., N. Y.
Newport Industries, Inc., 230 Park Ave., N. Y.
Pittsburgh Coal Carbonization Co., Oliver Bldg., Phila.
Reilly Tar & Chemical Corp., Indianapolis, Ind.
Republic Chemical Co., 94 Beekman St., N. Y.
Sherwood Refining Co., Englewood, N. J.
L. Sonneborn Sons, Inc., 88 Lexington Ave., N. Y. C.
Tennessee Eastman Corp., Kingsport, Tenn.
Union Bag & Paper Corp., 233 Bdway., N. Y.
Woburn Chemical Corp., Harrison, N. J.

FLUORIDES

(see also Dealers)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
American Fluoride Corp., 151 W. 19th St., N. Y.
Blockson Chemical Co., Joliet, Ill.
Croton Chem. Corp., 114 Liberty St., N. Y.
Foote Mineral Co., 1609 Summer St., Philadelphia
General Chemical Co., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N. Y.
Lindsay Light & Chem. Co., West Chicago, Ill.
Merck & Co., Rahway, N. J.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Pfaltz & Bauer, 350 Fifth Ave., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

FLYPAPER and RIBBONS

Russell Sales & Mfg. Co., 15 Park Row, N. Y.
Tanglefoot Co., Grand Rapids, Mich.
R. E. Tongue & Bro., Alleghany and Amber Sts., Phila.

FLY SPRAYS (see Household Insecticide Sprays)

FOAMING AGENTS (see Saponin; also Detergents, Synthetic; also Wetting Agents)

FOOT BATHS (Rubber)

U. S. Rubber Co., Market & South Sts., Passaic, N. J.

FORMALDEHYDE

(see also Brokers and Dealers)

American-British Chemical Supplies, 180 Madison Ave., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Cliffs-Dow Chem. Co., Marquette, Mich.
Delta Chem. & Iron Co., Wells, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Wm. S. Gray Co., 342 Madison Ave., N. Y.
Hercules Powder Co., Wilmington, Del.
Heyden Chem. Co., 393 7th Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chemical Work, St. Louis, Mo.
Merck & Co., Rahway, N. J.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

FORMALDEHYDE CANDLES

Bauer & Black, Chicago
Cenol Co., 4250 N. Pulaski Ave., Chicago
Depree Chem. Co., Holland, Mich.

FRAMES (Soap)

Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 49th St., Brooklyn
Littleford Bros., 451 E. Pearl St., Cincinnati
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago

FREON—(Dichloro-difluoro-methane)

Kinetic Chemicals, Inc., Wilmington 98, Del.

FULLERS EARTH

American Colloid Co., 363 W. Superior St., Chicago
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Attapulgus Clay Co., 260 So. Broad St., Phila.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Filtrol Corp., 634 S. Spring St., Los Angeles
Fullers Earth Co., 2049 E. 100th St., Cleveland
Hammill & Gillespie, 225 Broadway, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Sinclair Refining Co., East Chicago, Ind.
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
A. E. Starkie Co., 5461 W. Division St., Chicago
Tamms Silica Co., 228 N. La Salle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.

FUMIGANTS (Cyanides, Chlorpicrin, Methyl Bromide, etc.)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Kay-Fries Chemicals, Inc., 180 Madison Ave., N. Y.
Mechling Bros. Chemical Co., Camden, N. J.

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Hydrogenation of Oils
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Twitchell and Autoclave Processes
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Development of Processes, Reports, Investigations

W & S GLYCERINE EVAPORATORS

The improved WURSTER & SANGER Soap Lye Evaporator constitutes a marked advance in calandria design. Positive circulation of liquor in a definite direction has proved to increase the rate of evaporation and promote the separation of large crystals.

The WURSTER & SANGER Sweet-Water Evaporator has fulfilled the long need of complete accessibility for cleaning of tubes. It is equipped with an external heating element which affords high liquid velocity and a high rate of heat transfer.

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Our Continuous Glycerine Refining Plants represent the most modern and economical equipment for the production of Dynamite, High Gravity and C. P. grades from Crude. We have developed a plant which is an improvement over all former methods of distilling glycerine.

Our plants are producing C. P. glycerine in one distillation with yields of over 98% from Soap Lye Crude and low steam consumption. All glycerine is condensed in concentrated form eliminating the handling of sweet-waters. Continuous operation and automatic controls reduce the operating attention to a minimum.

OIL REFINING AND DEODORIZING PLANTS

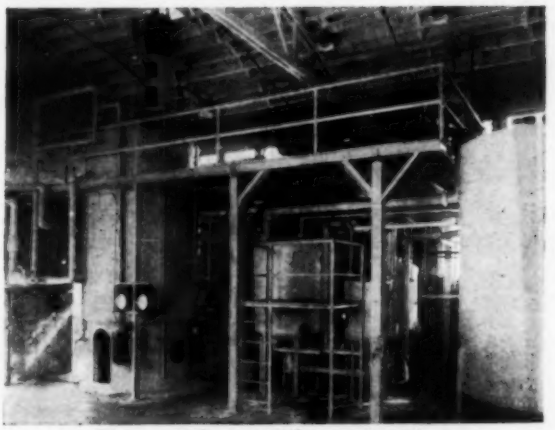
WURSTER & SANGER Oil Refining and Deodorizing Plants for the production of edible oils are suitable for cottonseed, corn, soya bean, peanut, cocoanut and other oils. Our equipment, processes and services cover completely all phases of this industry.

HYDROGENATION PLANTS

WURSTER & SANGER Oil Hardening Plants are built for partially or completely hardening vegetable oils, fish oils, lard and tallow, for edible and technical purposes.

Our plants are simple, efficient and economical in operation and give uniform products of highest quality.

Wurster & Sanger Continuous Glycerine Distillation Plant



Wurster & Sanger Hydrogenation Plant

W & S CATALYST REDUCER

The operation of the WURSTER & SANGER Wet Catalyst Reducer is completely automatic, resulting in a uniform catalyst of the greatest activity, longest life and less susceptible to poisons. The hazards encountered in dry reduction methods are eliminated. Operating costs are extremely low.

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WURSTER & SANGER Fatty Acid Distillation Plants, Continuous and Batch Type, are of improved design and construction throughout. Operation is under high vacuum and at low temperature, producing a superior quality of distilled fatty acids with high yields.

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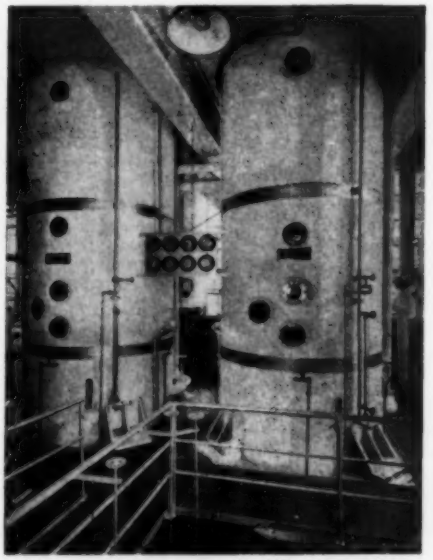
We specialize in the design and building of soap plants. Our Spray-Process Soap Powder Plant is producing soap powder at the lowest production cost.

ESTIMATES AND QUOTATIONS

We are glad to furnish information and quotations covering any equipment from the smallest part of an installation to complete plants for the manufacture of products from fats and oils.

Your inquiries will have our prompt consideration.



Wurster & Sanger Double Effect Soap Lye Glycerine Evaporator

FUMIGANTS (Contd.)

Michigan Chem. Corp., St. Louis, Mich.
Penn. Salt Mfg. Co., Widener Bldg., Phila.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Philadelphia
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
U. S. Industrial Chemicals, Inc., 60 E. 42nd St., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

GAS MASKS

Davis Emergency Equip. Co., 43 Halleck St., Newark, New Jersey
Mine Safety Appliances Co., Braddock, Thomas & Meade Sts., Pittsburgh, Pa.

GAUGES (see Instruments)

GERANIOL (see Aromatic Chemicals)

GERANIUM OIL (see Essential Oils)

GERANYL ACETATE (see Aromatic Chemicals)

GLASS BOTTLES and JARS (see Bottles)

GLASS and WINDSHIELD CLEANERS

Ampion Corp., 47-02—5th St., Long Island City, N. Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Calif.
Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire of Mo., St. Louis
Buck-Jack Co., 3056 Federal St., Baltimore
Chemical Mfg. & Dist. Co., Easton, Pa.
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Labs., 22-19—37th Ave., Long Island City.
Delta Chem. Co., 4 Payson Ave., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Phila.
Goulard & Olena, Inc., 140 Liberty St., N. Y.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hull Co., 305 Washington St., Brooklyn
Hysan Prods. Co., 932 W. 38th Place.
Industrial Labs., 17-19 W. Conway St., Baltimore
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Lewis Soap & Chem. Co., Oakland, Calif.
Midland Labs., Dubuque, Ia.
M. & H. Laboratories, 2703-5 Archer Ave., Chicago
National Oil Products Co., Harrison, N. J.
Palmer Products, Inc., Waukesha, Wisc.
Puritan Chem. Co., Atlanta
Theo. B. Robertson Prods. Co.,
700 W. Division St.,Chicago
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
John Sunshine Chem. Co., 604 W. Lake St., Chicago
Transmotive Labs., 2550 S. Michigan Ave., Chicago
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Wilco Co., 6800 McKinley Ave., Los Angeles

GLUES (see Adhesives)

GLYCERINE (Refined)

Armour & Co., 1355 W. 31st St., Chicago
Century Stearic Acid Candle Wks., 41 E. 42nd St., N. Y.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
Garrigues, Stewart & Davies, Inc., 40 Rector St., N. Y.
A. Gross & Co., 295 Madison Ave., N. Y .
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Lever Bros. Co., Cambridge, Mass.
Los Angeles Soap Co., Los Angeles, Calif.
National Oil Products Co., Harrison, N. J.
Leo Pasternak, 110 William St., N. Y. (Brokers)
Procter & Gamble Co., Cincinnati
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
C. J. Schellings & Co., 251 Pearl St., N. Y. (Brokers)
Swift & Co., Union Stock Yards, Chicago
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 West 65th St., Chicago

GLYCERINE PLANTS AND EQUIPMENT

E. B. Badger Co., 25 Pitts St., Boston
William Garrigue & Co., 9 S. Clinton St., Chicago
Alan Porter Lee, Inc., 136 Liberty St., N. Y.
Ernest Scott & Co., Fall River, Mass.
Swenson Evaporator Co., Harvey, Ill.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

GREASES (Fats for Soap)

Armour & Co., 1355 W. 31st St., Chicago
Belleville Rendering Co., Belleville, Ill.
Consolidated Rendering Co., 178 Atlantic Ave., Boston
Cudahy Packing Co., 221 N. La Salle, Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Co., 929 Ledger Bldg., Philadelphia
Long Island Soap Co.,
Meeker Ave. & Bridgewater St., Brooklyn
N. I. Malmstrom & Co., 147 Lombardy St., Brooklyn
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago
Willibald Schaefer Co., Foot of Bremen Ave., St. Louis
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Louis Stern Sons, Inc., Produce Exchange, N. Y.
Swift & Co., Chicago
Theobald Industries, Kearny, N. J.
Toledo Tallow Co., Toledo, Ohio
Waltham Tallow Co., Waltham, Mass.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Wilson & Co., Union Stock Yards, Chicago
Wilson-Martin Co., Swanson St., Philadelphia
Woburn Chemical Corp., Harrison, N. J.

GREASES, LUBRICATING (see Petroleum Bases)

GREEN SOAP (see Potash Soap)

GRINDING MACHINERY (for milling, pulverizing, etc.)

Abbe Engineering Co., 50 Church St., N. Y.
American Pulverizer Co., 18th & Austin Sts., St. Louis
C. O. Bartlett & Snow Co., 6200 Harvard Ave., Cleveland
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
First Machy. Corp., 157 Husdon St., N. Y. (Used)
Gruendler Patent Crusher & Pulverizer Co.,
900 N. First St., St. Louis
B. F. Gump Co., 412 S. Clinton St., Chicago
Houchin Machy. Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
Kent Machine Works, 39 Gold St., Brooklyn
Lancaster Iron Works, Lancaster, Pa.
J. M. Lehmann Co., Lyndhurst, N. J.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Olsen & Tilgner Mfg. Co., 2276 Elston Ave., Chicago
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Chas. Ross & Sons, 150 Classon Ave., Brooklyn
Patterson Foundry & Machine Co., East Liverpool, Ohio
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. I. Stokes Machine Co., Philadelphia, Pa.
Sturtevant Mill Co., Harrison Sq., Boston
Williams Patent Crusher & Pulverizer Co., St. Louis

GUMS

American Cyanamid & Chem. Corp.,
30 Rockefeller Plaza, N. Y.

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PHILADELPHIA 8	401 N. Broad Street, WAlnut 3198
GLOVERSVILLE, N. Y.	8 West St., GLoversville 3335
OMAHA	702 South Tenth St., JA. 3032

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CAUSTIC SODA—Solid • Flake • Liquid • FERRIC CHLORIDE—60% Crystals

CHLORIDE OF LIME—35-37% *Available Chlorine—Free Flowing*

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BEESWAX—*Sunbleached and Refined Yellow*
CANDELILLA—*Crude and Refined Lump and Flake*
CARNAUBA—*Refined, Lump and Flake*
CERESINE—*Orange, Yellow and White*
OZOKERITE—*Domestic; White and Yellow*
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ARABIC • KARAYA
LOCUST BEAN
TRAGACANTH

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Cosmetic Grades, mined in California and Nevada. These grades excel in Purity, Whiteness and Slip.
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TRINITY SUPERFINE - SILVER LAKE
NAPHTHALENE—Chips, Flakes and Balls.
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LANOLIN *Refined U. S. P. Hydrous and Anhydrous*

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SERVACIDE—Quality Insecticide Spray
ISCO INSECTICIDE SPRAY

GUMS (Contd.)

C. W. Campbell Co., 157 Chambers St., N. Y.
Consumers Import. Co., 350 Fifth Ave., N. Y.
T. G. Cooper & Co., 47 N. 2nd St., Philadelphia
Wm. Diehl & Co., 336 W. 42nd St., N. Y. 18
Dodge & Olcott, Inc., 180 Varick St., N. Y.
R. Gesell, Inc., 200 W. Houston St., N. Y.
Gillespie-Rogers-Pyatt, Ltd., 80 John St., N. Y.
Hercules Powder Co., Wilmington, Del.
Industrial Raw Materials Corp., 52 Wall St., N. Y.
J. L. Hopkins & Co., 220 Broadway, N. Y.
O. G. Innes Corp., 82 Wall St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
George H. Lincks, 155 John St., N. Y.
Neuman-Buslee & Wolfe, 224 W. Huron St., Chicago
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
J. H. Redding, Inc., 17 Battery Place, N. Y.
R. F. Revson Co., 144 W. 18th St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
William H. Scheel, Inc., 38 Franklin St., Bklyn.
Stein Hall & Co., 285 Madison Ave., N. Y.
Thurston & Bradich, 286 Spring St., N. Y.
Arthur C. Trask Co., 4102 S. La Salle St., Chicago
U. S. Industrial Chemicals, Inc., Lincoln Bldg., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

GUMS, FUSED CONGO

Gillespie-Rogers-Pyatt, Ltd., 80 John St., N. Y.
O. G. Innes Corp., 82 Wall St., N. Y.
S. P. Penick & Co., 50 Church St., N. Y. C.
U. S. Industrial Chemicals, Inc., Lincoln Bldg., N. Y.

GUNS, POWDER **(see Bellows, Insect Powder)**

GYM-FINISH FLOOR SEAL **(see Floor Finishes)**

HAND (Mechanic's) SOAP

Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Buck-Jack Co., 3056 Federal St., Baltimore
Chem. Mfg. & Dist. Co., Easton, Pa.
Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Columbia Soap & Chem. Co., Inc.,
324 Leavenworth St., San Francisco
Cudahy Packing Co., 221 N. La Salle St., Chicago
Davies Young Soap Co., Dayton, O.
Delta Chemical Co., 4 Payson Ave., N. Y.
Eagle Soap Corp., Huntington, Ind.
Eagle Soap Co., 205 Navy St., Bklyn.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
A. C. Fergusson Co., Drexel Bldg., Phila.
Flash Chem. Co., 160 2nd St., Cambridge, Mass.
Fuld Bros., 702 S. Wolfe St., Baltimore
Higley Chem. Co., Dubuque
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Co., Camden, N. J.
House of Milo, 628 N. 9th St., Birmingham
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Prods. Co., 9332 W. 38th Place, Chicago
Insto Co., 110 Center St., Los Angeles
Jansen Soap & Chemical Co., 324 Leavenworth St.,
San Francisco, Cal.
Los Angeles Soap Co., 617 E. First St., Los Angeles
Mione Mfg. Co., Collingdale, Pa.
National Sanitary Prods. Co., 217 N. 2nd St., St. Louis
North Coast Soap & Chem. Wks., Seattle, Wash.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Puritan Chem. Co., Atlanta, Ga.
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St.,
Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Skat Co., Hartford, Conn.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Swift & Co., Chicago
Texas Soap. Mfg. Corp., 4905 Calhoun Rd., Houston
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
United Cleanser Mfg. Co., Cambridge, Mass.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Utility Co., 636 W. 44th St., N. Y.
Vanco Co., Manchester, Conn.
Vliet Soap Co., 638 Monroe St., Brooklyn
Washine-National-Sands, Inc., 37-02 Northern Blvd.,
Long Island City.

HAND SOAP, Powdered

Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Banner Chemical Products Co., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chemical Mfg. & Dist. Co., Easton, Pa.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
J. Eavenson & Sons, Camden, N. J.
Essential Chemicals, 3286 N. 33rd St., Milwaukee
Fuld Bros., Baltimore
Kaskill Products, 9 Letitia St., Phila.
Hercules Powder Co., Wilmington, Del.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Co., Camden, N. J.
House of Milo, 628 N. 9th St., Birmingham
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Insto Co., 110 Center St., Los Angeles
La Maison Products, Inc., 80 York St., Brooklyn
M. & H. Laboratories, 2705 Archer Ave., Chicago
Mackenzie Laboratories, Front & Yarnell Sts., Chester,
Pa.
National Oil Products Co., Harrison, N. J.
Packwood Mfg. Co., St. Louis
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Port Huron Detergent Co., Port Huron, Mich.
Presto Mfg. Co., Myrtle and Curfew Sts., St. Paul, Minn.
Procter & Gamble Co., Cincinnati
Puritan Chem. Co., Atlanta
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
R. G. A. Laboratories, 145 W. 45th St., N. Y.
Theo. B. Robertson Prods. Co.
700 W. Division St., Chicago
Rochester Germicide Co., Rochester, N. Y.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Swift & Co., Chicago
Texas Soap Mfg. Corp., 1594 Calhoun Rd., Houston
Trio Chem. Wks., 341 Scholes St., Bklyn.
U. S. Sanitary Specialties Corp., 435 S. Western Ave.,
Chicago
Utility Co., 636 W. 44th St., N. Y.
Warren Soap Mfg. Co., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

HARD WATER SOAPS (Salt Water Soaps)

Armour Soap Wks., 1355 W. 31st St., Chicago
Baum's Castorine Co., Rome, N. Y.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
James Counts Soap Co., 2nd & Washington Aves., St.
Louis

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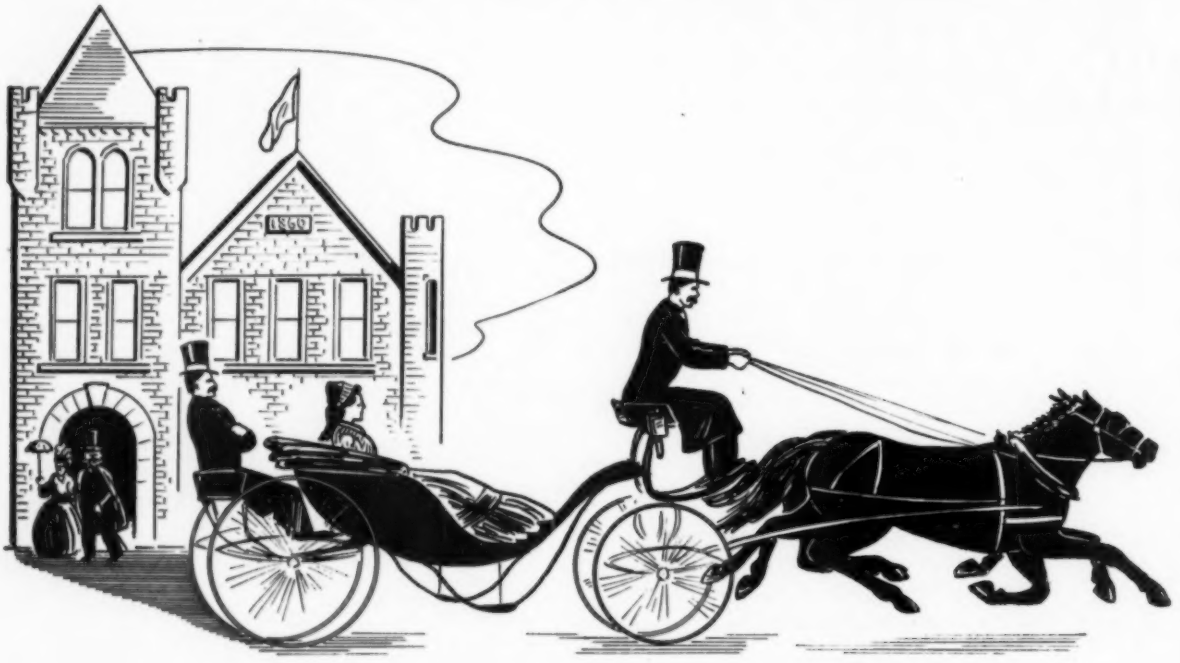

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Your customers deserve this consideration. The skill and experience that accrues in more than three-quarters of a century of soapmaking can give you confidence in Stanley's Soap. Your requirements, no matter how large or how small, are produced with the same high standard of impeccable perfection. Let your next inquiry prove our claim.

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HARD WATER SOAPS (Contd.)

Cudahy Packing Co., 221 N. LaSalle St., Chicago
Davies-Young Soap Co., Dayton, O.
James Good, Inc., 2116 Susquehanna Ave., Phila.
Harley Soap Co., Pierce & Orthodox Sts., Phila., Pa.
Haskins Bros. & Co., Omaha, Neb.
Hewitt Soap Co., Dayton, Ohio
Higley Chemical Co., Dubuque, Iowa
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Calif.
Los Angeles Soap Co., Los Angeles, Calif.
National Oil Products Co., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Wash.
Newell Gutradt Co., 350 Fremont St., San Francisco, Cal.
North Coast Soap & Chem. Works, Seattle, Wash.
Peck's Prod. Co., 5224 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston. . . .
Vliet Soap Co., 638 Monroe St., Brooklyn
Warren Soap Mfg. Co., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., 1247 N. 26th St., Philadelphia

HELIOTROPIN (See Aromatic Chemicals)

HOLDERS (Deodorizing Block)

(see also Cans, Fibre)

Chemical Mfg. & Dist. Co., Easton, Pa.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Cin-Made Corp. (fibre), 294 Eggleston Ave., Cincinnati
Eagle Soap Corp., Huntington, Ind.
Edelman Co., 6249 S. St. Lawrence Ave., Chicago
Elkay Products Corp., 323 W. 16th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Garnet Chem. Corp., 911 N. Lumber St., Allentown, Pa.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hysan Prods. Co., 932 W. 38th Place, Chicago
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
National Sanitary Chem. Co., Baltimore, Md.
Palmer Products, Inc., Waukesha, Wisc.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., 16 Downing Pl., Rochester N. Y.
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

HOMOGENIZERS (DISPERSION EQUIPMENT)

Abbe Engineering Co., 50 Church St., N. Y.
Eppenbach, Inc., 45-10 Vernon Blvd., Long Island City, N. Y.
First Machinery Corp., 819 E. 9th St., N. Y. (used)
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

HORTICULTURAL SPRAY BASE (See Petroleum Bases)

HOUSEHOLD AMMONIA (prepared, in bulk and private brand)

Chemical Supply Co., 2450 Canal Rd., Cleveland
Clifton Chemical Co., 62 William St., N. Y.
Cole Labs., 22-19—37th Ave., Long Island City
Fergusson Laboratories, Drexel Bldg., Philadelphia
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Phila.
Hockwald Chem. Co., 30 Bluxome St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 338th Place, Chicago
Merck & Co., Rahway, N. J.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago, Ill.
Shores Co., Cedar Rapids, Iowa
John T. Stanley Co., Inc., 642 W. 30th St., N. Y.
Thompson Hayward Chem. Co., Des Moines, Iowa
Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City

HOUSEHOLD INSECTICIDE BASE (see Petroleum Bases)

HOUSEHOLD INSECTICIDES, LIQUID

American Mothproof Co., 2330 W. View St., Los Angeles
Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Antiseptol Co., 5524 Northwest Highway, Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire Inc. of Mo., St. Louis
Banner Chemical Co., 60 Elm St., Newark, N. J.
Barton Chemical Co., 3907 S. Langley Ave., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Brilco Labs., 947-61st St., Bklyn.
Bri-Test Prods. Corp., 109 Ave. L, Newark, N. J.
Cary Mfg. Co., 4917 E. Michigan St., Indianapolis
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Mfg. & Dist. Co., Easton, Pa.
Chemical Service Co., Baltimore.
Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Columbia Soap & Chem. Co., Inc., 324 Leavenworth St., San Francisco
Davies-Young Soap Co., Dayton, O.
Delta Chemical Co., 4 Payson Ave., N. Y.
C. B. Dolge Co., Westport, Conn.
Eagle Soap Corp., Huntington, Ind.
Edelman Co., 6249 S. St. Lawrence Ave., Chicago
Elkay Products Co., 323 W. 16th St., N. Y.
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y.
James Good, Inc., 2116 Susquehanna Ave., Phila.
Goulard & Olena, 140 Liberty St., N. Y.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Harrison Oil Co., 5110 N. 35th St., Milwaukee
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 93 W. 38th Place, Chicago
Industrial Management Corp., 639 S. Spring St., Los Angeles
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Koppers Co., White Tar Div., Kearny, N. J.
Lewis Soap & Chem. Co., Oakland, Calif.
Maywood Pest Exterminators, Maywood, Ill.
McCormick & Co., Baltimore, Md.
M. & H. Laboratories, 2703-5 Archer Ave., Chicago
Michigan Chem. Corp., St. Louis, Mich.
Midland Labs., Dubuque, Ia.
Midway Chemical Co., 5235 W. 65th St., Chicago
Edgar A. Murray Co., 2703 Guoin St., Detroit
National Sanitary Prods. Co., 217 N. 2nd St. St. Louis
John Opitz Inc., 50-14—39th St., L. I. City
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Perrow Chem. Co., Hurt, Va.
Puritan Chem. Co., Atlanta
Rex Research Corp., Toledo
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., Rochester, N. Y.
St. Lawrence Chem. Co., Ogdensburg, N. Y.

Standardized, Dependable Chemicals for the

IN THE HOME

TOXICANTS FOR LIQUID INSECTICIDES

LETHANE 384
30% DDT SOLUTION
LETHANE 384 SPECIAL
25% DDT EMULSION CONCENTRATE
DDT TECHNICAL GRADE

TOXICANTS FOR POWDER INSECTCIDES

LETHANE A-70
D-50 DUST
LETHANE B-71
DDT TECHNICAL GRADE

FUNGICIDES AND MILDEW-PROOFING CONCENTRATES

HYAMINE 3258
HYAMINE 10-X

DISINFECTANT AND ANTISEPTIC CONCENTRATES

HYAMINE 1622
HYAMINE 10-X

WETTING AGENTS AND DETERGENTS

TRITON X-30
TRITON X-155M
TRITON X-300
TRITON X-400
TRITON X-500

COPPER OXYCHLORIDE: a copper compound particularly adapted for dust formulas for home gardens.

CUPRO-K: fungicide for use in sprays and dusts to control cherry leaf spot and other fruit diseases. Also recommended for Bordeaux-sensitive vegetables such as cucumbers, muskmelons and tomatoes.

25% DDT EMULSION CONCENTRATE: for dilution in water for use as residual action sprays, animal sprays and dips, and crop sprays.

30% DDT SOLUTION: a 30% DDT concentrate for use in fly sprays and residual-action sprays.

DDT TECHNICAL GRADE: has setting point of 89°C min. For use in all types of DDT insecticides.

D-50 DUST: 50% DDT concentrate for use in agricultural dusts and powder insecticides.

D-50 WETTABLE POWDER: a 50% DDT water-dispersable powder for use in agricultural, livestock, and residual action sprays.

DITHANE D-14: water soluble thiocarbamate fungicide, used in combination with lime and zinc sulfate for control of early and late blight on potatoes, tomatoes and celery, blue mold on cabbage, and certain other diseases of truck crops and ornamentals.

HYAMINE 10-X: quaternary ammonium salt for use in preparation of antiseptic mouth washes, shampoos, after-shave lotions, dentifrices and similar products.

HYAMINE 1622: quaternary ammonium salt for use in products for industrial and household disinfecting and sanitation of dishes, glassware, dairy equipment and similar food processing equipment. Also recommended for veterinary disinfectants and other specialty uses.

HYAMINE 3258: water-soluble quaternary ammonium pentachlorophenate combining the anti-fungal properties of the quaternary ammonium salt with those of the chlorophenates. Recommended as a mildew-proofing agent for leather and fabrics, general household use and food storage.

LETHANE A-70: organic thiocyanate liquid insecticide concentrate for use in powders for control of roaches, ants, bed bugs, silverfish, and certain other insect pests.

LETHANE B-71: organic thiocyanate powder insecticide concentrate for use in agricultural dusts, flea and louse powders, and related products.

LETHANE B-72: organic thiocyanate powder insecticide for use in spray applications in control of aphids, thrips and certain other sucking insects.

LETHANE 60: organic thiocyanate liquid insecticide concentrate for agricultural dusts and sprays, especially in combination with pyrethrum and rotenone and other specialized insecticide formulas.

LETHANE 384: organic thiocyanate liquid insecticide concentrate for use in household and livestock sprays, aerosols, and related products—noted particularly for fast action, repe

IN INDUSTRY

TOXICANTS FOR LIQUID AND POWDER INSECTICIDES

LETHANE 60
LETHANE 384
LETHANE 384 SPECIAL
LETHANE A-70
30% DDT SOLUTION
25% DDT EMULSION CONCENTRATE
DDT TECHNICAL GRADE
D-50 WETTABLE POWDE
D-50 DUST

Branch offices: Chicago, Kansas City, Los Angeles, Oakland; and P. N. Soden & Co. Ltd., Montreal and Toro

ROHM & HAAS

Manufacturers of Chemicals including Synthetic Insecticides . . Fungicides

Insecticide and Sanitary Products Industries

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...ETHANE 384 SPECIAL: an organic ...iocyanate liquid insecticide concen...ate for use in household insecticides, ...dustrial sprays and related products ...recognized for its fast action, sta...lity, uniformity, mild odor, and ...conomy.

...RITON B-1956: phthalic glycerol ...kyd resin for use as emulsifying ...ent in oil-base mosquito larvicides, ...rmant sprays, summer oil-sprays ...r fruit, and as a spreader and de...siting agent for use with fruit and ...getable sprays.

...RITON X-30: water solution of Triton ...100 containing 30% of the active ...ent for use in all-purpose household ...eaners, especially in hard-water ...eas; and in bubble-blowing solu...ons and similar products.

...RITON X-45: alkylated aryl poly...her alcohol; an emulsifier and de...ergent, more soluble in oil and less ...luble in water than Triton X-100. ...is less expensive than Triton X-100 ...d is suggested for oil sprays in ...griculture.

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...RITON X-166: dry emulsifying, wet...ng and dispersing agent for use in ...e manufacture of wettable sulfur ...d other dry insecticides and fungi...des to be used as suspensions — suggested for household scouring powders.

TRITON X-155M: (Alkyl-phenoxy polyethoxy-ethanol) for use as an emulsifier in solvent solutions of Rhothane or DDT, plant sprays and other insecticide formulations and for use in manufacturing cleaning compounds, cosmetics, mineral oil emulsions, such as furniture polishes and similar products.

TRITON X-300: (Sodium salt of alkylated aryl polyether sulfate) for use as a detergent in paint cleaners, dry cleaning compounds, household and industrial cleaners and rug shampoos, and bubble-blowing solutions.

TRITON X-301: contains same active agent, in paste form, as Triton X-300. Used as hair shampoo, in cosmetics, and in similar applications where the odor of the isopropanol in Triton X-300 would be undesirable.

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HYAMINE 1622 — HYAMINE 10-X

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TRITON X-45 — TRITON X-155M
TRITON X-300 — TRITON X-301
TRITON X-400 — TRITON X-500
TRITON X-166

FUNGICIDE AND MILDEW-PROOFING CONCENTRATES

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HYAMINE 10-X

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D-50 DUST
DDT TECHNICAL GRADE
LETHANE A-70 — LETHANE B-71
25% DDT EMULSION CONCENTRATE
D-50 WETTABLE POWDER

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D-50 DUST
LETHANE 384 SPECIAL
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25% DDT EMULSION CONCENTRATE

FUNGICIDES

DITHANE D-14 — YELLOW CUPROCIDE
CUPRO-K — COPPER OXYCHLORIDE

EMULSIFIERS, SPREADING AND WETTING AGENTS

TRITON B-1956 — TRITON X-100
TRITON X-45 — TRITON X-155M
TRITON X-166

DISINFECTANT AND MILDEW-PROOFING CONCENTRATES

HYAMINE 1622 — HYAMINE 3258

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Stanco Distributors, Inc., 216 W. 14th St., N. Y.
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Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chemical Works, 3 Winter St., Worcester, Mass.
Thompson-Hayward, 2915 S. W. Blvd., Kansas City
Trio Chem. Wks., 341 Scholes St., B'glyn.
Trojan Products & Mfg. Co., 3130 S. Wabash Ave., Chicago
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Vitra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Victory Chem. Co., 148 Fairmount Ave., Philadelphia
Vliet & Co., 638 Monroe St., Brooklyn
Robert C. White Co., Chestnut Hill, Phila.
Wilco Co., 6800 McKinley Ave., Los Angeles
York Chemical Co., 424 W. 18th St., N. Y.

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Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
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Boston Chemical Industries, 64 E. Brookline St., Boston
Chemical Service Co., Baltimore
Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Cole Labs., 22-19 37th Ave., L. I. City, N. Y.
Eagle Soap Corp., Huntington, Ind.
Elkay Products Corp., 323 W. 16th St., N. Y.
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y.
Goulard & Olena, Inc., 140 Liberty St., N. Y.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Koppers Co., White Tar Div., Kearny, N. J.
Lewis Soap & Chem. Co., Oakland, Calif.
Maywood Pest Exterminators, Maywood, Ill.
McCormick & Co., Inc., Baltimore, Md.
McLaughlin Gormley King Co., 1715—5th St., S. E., Minneapolis, Minn.
Michigan Chem. Corp., St. Louis, Mich.
Midland Labs., Dubuque, Ia.
Midway Chemical Co., 5235 W. 65th St., Chicago
Edgar A. Murray Co., 2703 Guoin St., Detroit
National Sanitary Prods. Co., 217 N. 2nd St., St. Louis
John Opitz, Inc., 50-14 39th St., L. I. City
Palmer Products, Inc., Waukesha, Wisc.
Puritan Chemical Co., Atlanta
Ratin Labs., 116 Broad St., N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., Rochester, N. Y.
St. Lawrence Chem. Co., Ogdensburg, N. Y.
Selig Co., 336 Marietta St., Atlanta, Ga.
Shores Co., Cedar Rapids, Ia.
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Stanco Distributors, Inc., 216 W. 14th St., N. Y.
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Emery Industries, 43 Carew Tower, Cincinnati
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Hooker Electrochemical Co., Niagara Falls, N. Y.
Spencer Kellogg & Sons, Buffalo, N. Y.
Procter & Gamble Co., Cincinnati, O.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Welch, Holme & Clark, 563 Greenwich St., N. Y.
Wesson Oil & Snowdrift Co., 21 West St., N. Y.
Wyandotte Oil Co., Wyandotte, Mich.

HYDROGENATION PLANTS (see Oil Hydrogenation Plants)

HYDROSULFITES (Soap Bleaches)

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Innis, Speiden & Co., 117 Liberty St., N. Y.
Monsanto Chem. Co., St. Louis
Richards Sales Corp., Warren & Morris St., Jer. City, N. J.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Royce Chem. Co., Carlton Hill, N. J.

HYDROXYCITRONELLAL (see Aromatic Chemicals)

HYPOCHLORITES (see Chlorine) (see Laundry Bleach)

INFUSORIAL EARTH (see Abrasives)

INSECT FLOWERS (see Pyrethrum)

INSECT POWDER GUNS (see Bellows)

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Carbide & Carbon Chems. Corp., 30 E. 42nd St., N. Y.
Dodge & Olcott Inc., 60 E. 42nd St., N. Y.
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Michigan Chem. Corp., St. Louis, Mich.
Skol Co., 250 E. 43rd St., N. Y.
Stanco, Inc., 216 W. 23rd St., N. Y.
St. Lawrence Chem. Co., Ogdensburg, N. Y.
Uncle Sam Chem. Co., 575 W. 131st St., N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

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Chipman Chem. Co., Bound Brook, N. J.
Dodge & Olcott Inc., 60 E. 42nd St., N. Y.
Dow Chemical Co., Midland, Mich.
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Geigy & Co., 89 Barclay St., N. Y.
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Sparhawk Co., Sparkill, N. Y.
Tombarel Prods. Corp., 12 E. 22nd St., N. Y.
Van Dyk & Co., Belleville, N. J.

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INSECTICIDE TESTING (see Laboratories)

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Buffalo Meter Co., 2890 Main St., Buffalo, N. Y.
Cambridge Instrument Co., 3732 Grand Cent. Term., N. Y.
G. M. Davis Regulator Co., 2541 S. Washtenaw, Chicago
Eimer & Amend, 633 Greenwich St., N. Y.
Foxboro Co., Foxboro, Mass.
Liquidometer Corp., Long Island City, N. Y.
Pneumercator Co., Sperry Bldg., Brooklyn
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KAOLIN (see Clays)

KEROSENE (see Petroleum Insecticide Base Oils)

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Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
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Patterson-Kelley Co., East Stroudsburg, Pa.
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Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
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Pneumatic Scale Corp., North Quincy, Mass.
Potdevin Machine Co., 1425 37th St., Bklyn.
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Scientific Filter Co., 12 Franklin Square, N. Y.

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Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
New Jersey Machine Corp., Hoboken, N. J.
Pneumatic Scale Corp., North Quincy, Mass.
Potdevin Machine Co., 1425 37th St., Bklyn.
Scientific Filter Co., 12 Franklin Square, N. Y.
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Stokes & Smith Co., Summerdale, Phila., Pa.

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Foxon Co., Providence, R. I.
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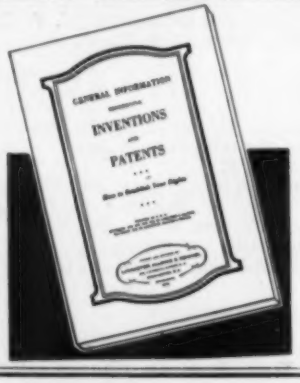

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La Wall & Harrison, 214 S. 12th St., Phila.
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Hysan Products Co., 932 W. 38th Place, Chicago
H. Kohnstamm & Co., 91 Park Pl., N. Y.
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Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
Sergeant Chem. Co., 7 Dey St., N. Y.
Surpass Chemical Co., Albany, N. Y.
Thompson-Hayward Chemical Co., Kansas City, Mo.
Jos. Turner & Co., Ridgefield, N. J.
Westvaco Chlorine Prods. Co., 405 Lexington Ave., N. Y.
Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City

LAUNDRY BLUE

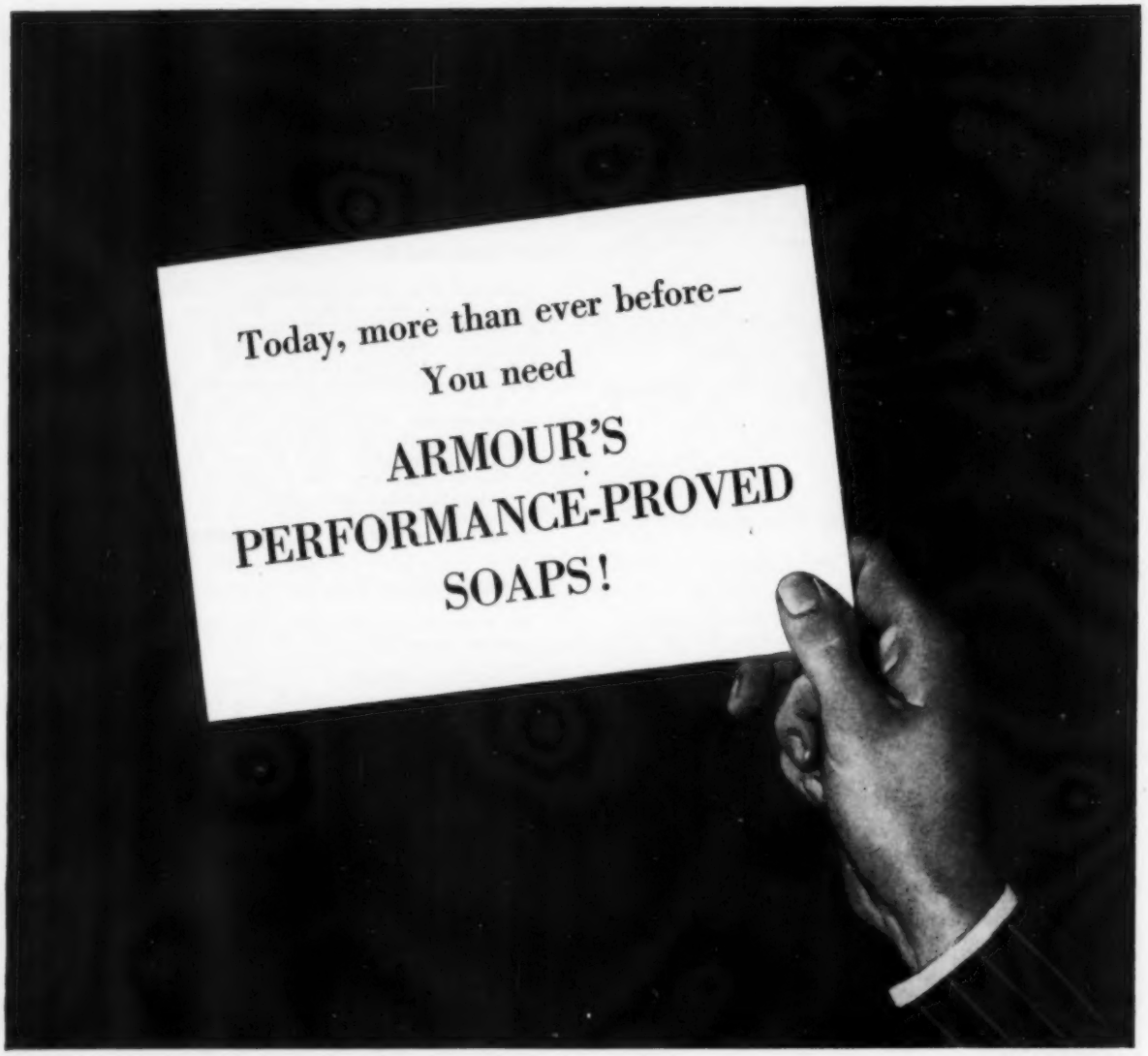
American Soap & Washoline Co., Cohoes, N. Y.
Brilco Labs., 947—61st St., Brooklyn
Cowles Detergent Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
Fezandie & Sperrle, 205 Fulton St., N. Y.
Interstate Color Co., 5 Beekman St., N. Y.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Napthole, Inc., 15 E. 26th St., N. Y.
National Aniline & Chemical Co., 40 Rector St., N. Y.
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Pylam Products Co., 799 Greenwich St., N. Y.
Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

LAUNDRY SOAP, CAKE

American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Wks., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Du Bois Soap Co., Cincinnati, O.
Eagle Soap Co., 205 Navy St., Bklyn.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Fels & Co., Philadelphia
Hewitt Soap Co., Dayton, O.
Kamen Soap Prods. Co., Woolworth Bldg., N. Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
Manhattan Soap Co., Bristol, Pa.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
National Soap Co., 357 S. 25th St., Tacoma, Wash.
Newell Gutradt Co., 350 Fremont St., San Francisco, Cal.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
North Coast Chem. & Soap Wks., Seattle, Wash.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Vliet Soap Co., 638 Monroe St., Brooklyn, N. Y.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAUNDRY SOAP, CHIP

American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Wks., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Du Bois Soap Co., Cincinnati, O.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Fels & Co., Philadelphia
Harris Soap Co., Buffalo, N. Y.
Hewitt Soap Co., Dayton, Ohio
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
Nat'l Milling & Chem. Co., Manayunk, Phila.
National Oil Products Co., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati



CHEMICALLY BALANCED, SCIENTIFICALLY CONTROLLED

Armour soaps are *designed* to give complete satisfaction in performance and economy.

All raw materials are first given a careful chemical analysis. This laboratory report is then used to make up a test batch which is *pre-proved* for titer and suds in Armour's Pilot Plant. Before being released, the thorough efficiency of the finished soap is *again proved* under actual commercial laundry conditions. Armour's Pilot Plant is completely equipped with wash wheel, extractor, tumbler and flat work ironer. Such care in manufacturing insures you safe, dependable soaps.

Armour's long experience in making soap is your guarantee of satisfaction. Look to Armour for quality, dependability and efficiency in all the soaps you need.

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Armour and Company

1355 WEST 31st STREET, CHICAGO 9, ILLINOIS

LAUNDRY SOAP, CHIP (Contd.)

John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAUNDRY SOAP, POWD. AND GRAN.

American Soap Powder Wks., 100 Van Dyke St., Brooklyn, N. Y.
American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Beach Soap Co., Lawrence, Mass.
Chemical Mfg. & Dist. Co., Easton, Pa.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Du Bois Soap Co., Cincinnati, O.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Hewitt Soap Co., Dayton, Ohio
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Los Angeles Soap Co., Los Angeles, Calif.
Mackenzie Laboratories, Front & Yarnell Sts., Chester, Pa.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Napthole, Inc., 15 E. 26th St., N. Y.
Nat'l Milling & Chem. Co., Manayunk, Phila.
National Oil Products Co., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Co., Cincinnati
R. G. A. Laboratories, 145 W. 45th St., N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
Stevens Soap Corp., 202 Sullivan St., Brooklyn
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAUNDRY SODA, (see Soda)

LAUNDRY SOURS (Fluoride, etc.)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
American Fluoride Corp., 151 W. 19th St., N. Y.
Blockson Chemical Co., Joliet, Ill.
Chemical Mfg. & Dist. Co., Easton, Pa.
Croton Chem. Corp., 114 Liberty St., N. Y.
Diamond Alkali Co., 535 Smithfield Ave., Pittsburgh, Pa.
General Chem. Co., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hummel Chem. Co., 90 West St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Port Huron Detergent Co., Port Huron, Mich.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Standard Chem. Co., Columbus, O.
John T. Stanley Co., 642 W. 30th St., N. Y. C.
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Thompson-Hayward Chemical Co., Kansas City, Mo.
Victor Chemical Wks., 141 W. Jackson Blvd., Chicago
Welch Holme & Clark, Inc., 563 Greenwich St., N. Y.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAVENDER OIL (see Essential Oils)

LAURIC ACID (see also Fatty Acid)

Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
E. F. Drew & Co., Boonton, N. J.
Woburn Chemical Corp., Harrison, N. J.

LAURYL ALCOHOL

E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y. C.
Michel Export Co., 95 Broad St., N. Y.
Robinson Wagner Co., 110 E. 42nd St., N. Y.

LEAD ARSENATE

Amer. Agricultural Chem. Co., 50 Church St., N. Y.
American Cyanamid & Chem. Co., 30 Rockefeller Plaza, N. Y.
California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif.
Chipman Chem. Co., Bound Brook, N. J.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del.

LEAD ARSENATE (Contd.)

General Chemical Co., 40 Rector St., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Sherwin-Williams Co., Cleveland, O.

LECITHIN

American Lecithin Corp., Corona Ave., Elmhurst, L. I.
Chemical Novelties Corp., 946 W. 5th St., Cincinnati
W. A. Cleary Corp., New Brunswick, N. J.
Digestive Ferments Co., 930 Henry St., Detroit
Enco Co., 441 Lexington Ave., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Merck & Co., Rahway, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Soya Corp. of America, 30 Rockefeller Plaza, N. Y.
A. E. Starkie, 5461 W. Division St., Chicago
Welch Holme & Clark, Inc., 563 Greenwich St., N. Y.
Wilson Labs., 4221 S. Western Blvd., Chicago

LEMON OIL (see Essential Oils)

LEMONGRASS Oil (see Essential Oils)

LIME (Live and Hydrated)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif.
E. I. Du Pont de Nemours, Wilmington, Del.
Hoosac Valley Lime Co., Adams, Mass.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Lehigh Lime Co., 111 W. Washington St., Chicago
National Gypsum Co., 192 Delaware Ave., Buffalo, N. Y.
Rockland-Rockport Lime Co., Rockland, Maine
William H. Scheel, Inc., 38 Franklin St., Brooklyn
U. S. Lime Prods. Corp., 85 Second St., San Francisco
Whiterock Quarries, Inc., Bellefonte, Pa.
Whittaker, Clark & Daniels, Inc., 260 Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

LIME SULFUR

Allen Co., Pittstown, N. J.
California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif.
Chipman Chemical Co., Bound Brook, N. J.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del.
General Chemical Co., 40 Rector St., N. Y.
Sherwin-Williams Co., Cleveland, O.
Shores Co., Cedar Rapids, Iowa
Taylor Chem. Wks., Aberdeen, N. C.

LINALOE OIL (see Essential Oils)

LINALOOL (see Aromatic Chemicals)

LINALYL ACETATE (see Aromatic Chemicals)

LINERS (see Bag Liners)

LINING MACHINERY (Cartons)

Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago

LINSEED OIL

(see also Brokers and Dealers)

Archer-Daniels-Midland Corp., Minneapolis, Minn.
Bisbee Linseed Co., Philadelphia
William O. Goodrich Co., Milwaukee, Wis.
Spencer Kellogg & Sons, Buffalo, N. Y.
Kelloggs & Miller, Amsterdam, N. Y.
Minnesota Linseed Oil Co., Minneapolis, Minn.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Place, N. Y.
A. E. Starkie Co., 5461 W. Division St., Chicago
Welch Holme & Clark Co., 563 Greenwich St., N. Y.

LINSEED OIL SOAP (see Potash Soaps)

LIQUID SOAP AND BASE (see Potash Soap)

MACHINERY, USED (see also Used Machinery)

MAGNESIUM CARBONATE

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Croton Chem. Corp., 114 Liberty St., N. Y.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Innis-Speiden & Co., 117 Liberty St., N. Y.
Michigan Chem. Corp., St. Louis, Mich.
F. E. Schundler & Co., Joliet, Ill.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, Inc., 260 Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

MAGNESIUM OXIDE

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Michigan Chem. Corp., St. Louis, Mich.
E. E. Schundler & Co., Joliet, Ill.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, Inc., 260 Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

MAGNESIUM STEARATE (see Stearates)

MAHOGANY SULFONATES (see Naphthenic Acids)

MAHOGANY SOAP

Armour Soap Wks., 1355 W. 31st St., Chicago
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Emery Industries, 4300 Carew Tower, Cincinnati
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Los Angeles Soap Co., Los Angeles, Calif.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.

MANILA GUMS

Gillespie-Rogers-Pyatt Co., 80 John St., N. Y.
O. G. Innes Corp., 82 Wall St., N. Y.
Wm. H. Scheel, Inc., 38 Franklin Street, Brooklyn
U. S. Industrial Chemicals, Inc., Lincoln Bldg., N. Y.

MARINE SOAPS (see Salt Water Soaps)

MECHANIC'S HAND PASTE (see Hand Soap)

MEDICINAL SOAPS, CAKE

Armour Soap Wks., 1355 W. 31st St., Chicago
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., Los Angeles, Calif.
Newell Gutradt Co., 350 Fremont St., San Francisco, Cal.
Procter & Gamble Co., Cincinnati
Rare Chemicals, nc., First & Essex Sts., Harrison, N. J.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

MEDICINAL SOAPS, LIQUID (see Potash Soaps)

MENTHOL

(see also Essential Oils)

Bendix Chem. Corp., 120 Lexington Ave., N. Y.
S. W. Bridges & Co., 82 Wall St., N. Y.
Consumers Import Co., 350 Fifth Ave., N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
P. R. Dreyer, 119 W. 19th St., N. Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y.
Magnus, Mabee & Reynard, Inc, 16 Desbrosses St., N. Y.
A. Maschmeijer, Jr., Inc., 45 W. 16th St., N. Y.
McKesson & Robbins, Inc., 155 E. 42nd St., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Sherka Chemical Co., 86 Orange St., Bloomfield, N. J.
Tombarel Prods., 12 E. 22nd St., N. Y.

MERCURY BICHLORIDE (Corrosive Sublimate)

F. W. Berk & Co., Wood Ridge, N. J.
General Chemical Co., 40 Rector St., N. Y.
Heyden Chemical Corp., 393 7th Ave., N. Y.
Mallinckrodt Chemical Works, St. Louis
Merck & Co., Rahway, N. J.
Metalsalts Corp., 27 First Ave., Paterson, N. J.
New York Quinine & Chem. Wks., N. 11th & Berry Sts., Brooklyn
Chas. Pfizer & Co., 81 Maiden Lane, N. Y.

METAL PAILS, etc. (Waste Baskets, Receptacles, Spittoons, etc., Garbage Pails & Barrels)

Justrite Mfg. Co., 2061 N. Southport Ave., Chicago
F. H. Lawson Co., Cincinnati
National Enameling & Stamping Co., Milwaukee, Wisc.
Solar Receptacle Co., Melrose Park, Ill.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Wheeling Corrugating Co., Wheeling, W. Va.,
Witt Cornice Co., 2118 Winchell Ave., Cincinnati

METAL POLISH (see Polish)

METALLIC SOAPS (see Stearates)

METERS (see Instruments)

METHANOL (Synthetic)

Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
E. I. Du Pont de Nemours & Co., Wilmington, Del.

METHYL ANTHRANILATE

(see also Aromatic Chemicals)

Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours, Wilmington, Del.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Florasynth Labs., Olmstead & Starling Aves., N. Y.
A. Maschmeijer, Jr., Inc., 45 W. 16th St., N. Y.

METHYL BROMIDE

Dow Chemical Co., Midland, Mich.
Michigan Chem. Co., St. Louis, Mich.
Westvaco Chlorine Prods. Corp., 405 Lexington Av., N. Y.

METHYL CELLULOSE

Dow Chemical Co., Midland, Mich.
General Dyestuffs Corp., 435 Hudson St., N. Y.
Hercules Powder Co., Wilmington, Del.

METHYL SALICYLATE (Artificial Wintergreen)

(*see also Aromatic Chemicals*)

Dow Chemical Co., Midland, Mich.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Heyden Chemical Corp., 393 7th Ave., N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis

MILLS, SOAP POWDER (see Soap Machinery & Grinding Machinery)

MINERAL OIL, WHITE (see White Mineral Oil)

MINERAL SOAP (see Petrolatum)

MIRBANE OIL (Nitrobenzine)

(*see also Essential Oils*)

Calco Chemical Co., Bound Brook, N. J.
E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
National Aniline & Chemical Div., 40 Rector St., N. Y.
Naugatuck Aromatics, Inc., 254 Fourth Ave., N. Y.

MIXERS (Portable)

Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Consolidated Products Co., 15 Park Row, N. Y. (Used)
Eastern Engineering Co., 45 Fox St., New Haven, Conn.
Ertel Eng. Co., Kingston, N. Y.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Frank B. Lomax Co., 365 W. Oak St., Chicago
Mixing Equipment Co., Inc., 1067 Garson Ave., Rochester, N. Y.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Patterson Fdy. & Mch. Co., E. Liverpool, O.
Pfaudler Co., 89 East Ave., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy. Co., York, Pa.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)

MIXING MACHINERY (Change Can)

Abbe Engineering Co., 50 Church St., N. Y.
Amer. Mach. & Foundry Co., 511 5th Ave., N. Y.
Arthur Colton Co., Detroit, Mich.
Consolidated Products Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machy. Co., Hawthorne, N. J.
Kent Machine Works, 39 Gold St., Brooklyn
Mixing Equipment Co., Inc., 1067 Garson Ave., Rochester, N. Y.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy., Co., York, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
Waterville Fndry. & Machine Co., Waterville, N. Y.

MIXING MACHINERY (Dry Products)

Abbe Engineering Co., 50 Church St., N. Y.
Amer. Mach. & Foundry Co., 511 5th Ave., N. Y.
Atlas Steel Construction Co., Irvington, N. Y.
Consolidated Products Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
First Machy. Corp., 157 Hudson St., N. Y. (Used)
B. F. Gump Co., 412 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Lancaster Iron Works, Lancaster, Pa.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Read Machy. Co., York, Pa.
Robinson Mfg. Co., Muncy, Pa.
Chas Ross & Son Co., 150 Classon Ave., Brooklyn
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Machine Co., Philadelphia, Pa.
Struthers-Wells Corp., Warren, Pa.
Aurelio Tanzi Engineering Co., 430 Jefferson St., Bklyn.

MIXING MACHINERY (General)

Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Amer. Mach. & Foundry Co., 511 5th Ave., N. Y.
Baker-Perkins Co., 250 Park Ave., N. Y.
Beach-Russ Co., 50 Church St., N. Y.
Arthur Colton Co, Detroit
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Eastern Engineering Co., 45 Fox St., New Haven
Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
B. F. Gump Co., 431 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
S. Howes Co., Inc., Silver Creek, N. Y.
Huber Machine Co., 259—46th St., Brooklyn
Kent Machine Co., 37 Gold St., Brooklyn
Lancaster Iron Works, Lancaster, Pa.
J. M. Lehmann Co., Lyndhurst, N. J.
Littleford Bros., 443 E Pearl St., Cincinnati
Mixing Equipment Co., 1067 Garson Ave., Rochester, N. Y.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Patterson-Kelley Co., East Stroudsburg, Pa.
Pfaudler Co., 89 East St., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Read Machinery Co., York, Pa.
Robinson Mfg. Co., Muncy, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Sowers Mfg. Co., 1296 Niagara St., Buffalo, N. Y.
Sprout Waldron & Co., Muncy, Pa.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Mach. Co., Philadelphia, Pa.
Struthers-Wells Co., Warren, Pa.
Turbo Mixer Corp., 247 Park Ave., N. Y.
Waterville Foundry & Machine Co., Waterville, N. Y.

MONEL METAL EQUIPMENT

Eastern Engineering Co., New Haven, Conn. (Pumps)
Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Houchin Machinery Co., Hawthorne, N. J.
International Nickel Co., 67 Wall St., N. Y.
Alan Porter Lee, Inc., 136 Liberty St., N. Y.
Littleford Bros., 453 E. Pearl St., Cincinnati
Patterson-Kelley Co., East Stroudsburg, Pa.
Pfaudler Co., 89 East St., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Sprout Waldron & Co., Muncy, Pa.
F. J. Stokes Machine Co., Phila.
Wurster & Sanger, Inc., 5201 Kenwood Ave., Chicago

SIX CHAPTERS OF PROFIT MAKERS
PER-MO
MOTHPROOF LIQUID
Fast repeater! Odorless! Guaranteed to prevent and protect all wool fabrics from moth and carpet beetle damage! Packed in bulk or to your request.
PER-MO
RAT BITS
Sure death to rats—non-poisonous to humans, pets, domestic animals. A Red Squill product. Packed in bulk, 3 oz. and 16 oz. containers.
PER-MO
BOWL LIQUID
For cleaning toilet bowls. Deodorizes and overcomes offensive bowl odors. Easy to use——no fuss or muss. Packed in quarts and gallons.
PER-MO
RAT and MICE LIQUID
Two-way sure death to rats and mice . . . used as a drink or mixed with any food. Packed in bulk or to your request.
PER-MO
REFRIGERATOR BAGS
An ideal deodorant with lots of repeat sales—good traffic builder, prevents odors from spreading onto other foods. Requires no attention. Use at once.
PER-MO
FLAME PROOF LIQUID
Guaranteed to prevent fire from spreading. Does not harm fabrics, decorations, etc., that water will not harm. Spray or dip! Packed in bulk or to your request.
PER-MO A NAME
You can trust in the insecticide and associate fields, brings you 6 big profit makers.
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3602 WOODLAND KANSAS CITY 3, MO.

MONTAN WAX (see Waxes)

MOP HANDLES

Algoma Mfg. Co., Green Bay, Wis.
Amer. Standard Mfg. Co., 2509 S. Green St., Chicago
Stanley H. Coffin, 12 Pearl St., Boston
Eagle Woodenware Mfg. Co., Hamilton, O.
Economy Mop Wringer Co., 1944 W. 21st St., Chicago
Erie Mop & Wringer Co., East Rochester, N. Y.
Howard Dustless Duster Co. Boston
W. E. Kautenberg Co., Freeport, Ill.
Marvel Mop Division, Zelinkoff Co., Wichita, Kans.
Massasoit Mfg. Co., 72 Park Pl., N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
Rubon Wood Finishing & Prods. Co., 500 W. 7th St., Kansas City, Mo.
Silver-Chamberlin Co., Clayton, N. Y.
White Mop Wringer Co., Fultonville, N. Y.

MOP WRINGERS AND PAILS

Stanley H. Coffin, 12 Pearl St., Boston
Colson Mfg. Co., Elyria, O.
Dobbins Mfg. Co., Elkhart, Ind.
Eagle Woodenware Mfg. Co., Hamilton, Ohio
Economy Mop Wringer Co., 1944 W. 21st St., Chicago
Geuder, Paesche & Frey, Milwaukee, Wis.
Illinois Duster Co., 1944 Webster Ave,. Chicago
S. C. Lawlor Co., 122 N. Aberdeen St., Chicago
Muskegon Sanitary Supply Co., Muskegon Heights, Mich.
Palmer Products, Inc., Waukesha, Wisc.
Sanitary Mfg. Co., 926 Ft. Wayne Ave., Indianapolis
Sweet Mop Co., 1913 Fremont Ave., South Pasadena, Cal.
Tarbox Lever Corp., 61 Chandler St., Buffalo
White Mop Wringer Co., Fultonville, N. Y.

MOPPING TANKS AND TRUCKS

Eagle Woodenware Mfg. Co., Hamilton, O.
Economy Mop Wringer Co., 1944 W. 21st St., Chicago
S. C. Lawlor Co., 122 N. Aberdeen St., Chicago
Palmer Products, Inc., Waukesha, Wisc.
White Mop Wringer Co., Fultonville, N. Y.

MOPS

Alabama Broom & Mattress Co., Huntsville, Ala.
Algoma Mfg. Co., Green Bay, Wis.
Amer. Standard Mfg. Co., 2509 S. Green St., Chicago
Amer. Textile Prods. Co., 5606 Euclid Ave., Cleveland
Burdett-Rose Mfg. Co., 6100 Independence Rd., Kansas City, Mo.
California Cotton Mills Co., Oakland, Calif.
Chattanooga Broom & Mop Co., Chattanooga, Tenn.
Clark Bros. Mfg. Co., 34 N. Front St., Phila.
Stanley H. Coffin, 12 Pearl St., Boston, Mass.
Eagle Woodenware Mfg. Co., Hamilton, O.
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
Howard Dustless Duster Co., Boston, Mass.
Illinois Duster & Brush Co., 1944 Webster Ave., Chicago
W. E. Kautenberg Co., P. O. Box 255, Freeport, Ill.
Klenzall Mfg. Co., Atlanta, Ga.
Marvel Mop Division, Zelinkoff Co., Wichita, Kans.
Palmer Products, Inc., Waukesha, Wisc.
Pioneer Mfg Co., Cleveland, Ohio
Rex-Cleanwall Corp., Brazil, Ind.
Rubon Woodfinishing & Prod. Co., 500 W. 7th St., Kansas City, Mo.
Sanitary Mfg. Co., 926 Ft. Wayne Ave., Indianapolis
Schaefer-Wetcher Co., 445 W. Jefferson Ave., Detroit
Silver-Chamberlain Co., Clayton, N. J.
T. C. Smyth Mfg. Co., Union City, Ind.
Sweet Mop Co., 1913 Fremont Ave., South Pasadena, Cal.
Tate Mfg. Co., Boston, Mass.
M. J. Toohey & Co., Fall River, Mass.
Tuscaloosa Mills, Tuscaloosa, Ala.
Tu-Way Products Co., 1423 Franklin St., Detroit
Yocma Mills, Water Valley, Miss.

MOSQUITO LARVICIDES

Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Associated Chemists, Inc., 1906 N. Halsted St., Chicago.
Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire of Mo., St. Louis
Cary Mfg. Co., 4917 E. Michigan St., Indianapolis
Cenol Co., 4250 N. Pulaski Ave., Chicago
Chemical Supply Co., Plymouth Bldg., Cleveland.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Chipman Chemical Co., Bound Brook, N. J.
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 932 W. 38th Place, Chicago
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Koppers Co., White Tar Div., Kearny, N. J.
McCormick & Co., Inc., Baltimore, Md.
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Products Co., St. Louis
Shell Oil Co., 50 W. 50th St., N Y.
Texol Chemical Works, 3 Winter St., Worcester, Mass.
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
Thompson-Hayward Chemical Co., Kansas City, Mo.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Velsicol Corp, 120 E. Pearson St., Chicago
York Chem. Co., 424 W. 18th St., N. Y.

MOTH BAGS

Clopay Co., Cincinnati
Kennedy Car Liner Co., Indianapolis
LeMontre Co., Cincinnati
Rosette Co., 200 Tillary St., Brooklyn

MOTH PROOFING COMPOUNDS

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Associated Chemists, Inc., 1906 N. Halsted Ave., Chicago
Barrett Co., 40 Rector St., N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire, Inc., of Mo., St. Louis
Brilco Labs., 947—61st St., Brooklyn
Cenol Co., 4250 N. Crawford Ave., Chicago
Chemical Supply Co., Plymouth Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Edelman Co., 6429 S. St. Lawrence Ave., Chicago
Elkay Prods. Co., 323 W. 16th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Co., 89 Barclay St., N. Y.
General Dyestuffs Corp., 435 Hudson St., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Harrison Oil Co., 5110 N. 35th St., Milwaukee
Hercules Powder Co., Wilmington, Del.
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman Co., Providence, R. I.
R. M. Hollingshead Corp., Camden, N. J.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Koppers Co., White Tar Div., Kearney, N. J.
Kwik Products Co., 451 W. 28th St., N. Y.
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Midway Chemical Co., 5235 W. 65th St., Chicago
Peck's Products Co., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Phila.
Per-Mo Products Co., 3604 Woodland Ave., Kansas City, Mo.
Reilly Tar & Chemical Corp., Indianapolis
Solvay Sales Corp., 40 Rector St., New York
Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City, Mo.

MOTH PROOFING COMPOUNDS (Contd.)

J. A. Tumbler Labs., 423 Hanover St., Baltimore
Joseph Turner Co., Ridgefield, N J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Whitmire Research Corp., 339 S. Vandeventer, St. Louis

MOTH SPRAYS (see Household Insecticides, Liquid)

MOTTLED SOAPS

Lightfoot Schultz Co., Hoboken, N. J.
Los Angeles Soap Co., Los Angeles
National Soap Co., P. O. Box 1613, Tacoma, Wash.
Peck's Prods. Co., 5224 N. 2nd St., St. Louis
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
M. Werk Co., Cincinnati, O.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

MOUSE SEEDS (see Poisoned Seeds)

MUSKS, ARTIFICIAL (see Aromatic Chemicals)

MYRISTIC ACID (see also Fatty Acids)

Woburn Chemical Corp., Harrison, N. J.

NAPHTHA (see Solvent Naphtha)

NAPHTHALENE

American-British Chem. Supplies, 180 Madison Ave.,
Barrett Co., 40 Rector St., N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Dominion Tar & Chem. Co., Ltd., Montreal
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
William E. Jordan & Bro., 2590 Atlantic Ave., Brooklyn
Koppers Co., White Tar Div., Kearny, N. J.
Neville Co., Pittsburgh
Reilly Tar & Chem. Corp., Indianapolis
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Standard Naphthalene Prods. Co., S. Kearny, N. J.
Velsicol Corp., 120 E. Pearson St., Chicago

NAPHTHALENE SULFONATES

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
General Dyestuffs Corp., 435 Hudson St., N. Y.
National Aniline & Chem. Div., 40 Rector St., N. Y.
National Oil Products Co., Harrison, N. J.
Pennsylvania Refining Co., Butler, Pa.
Richard Sales Corp., Jersey City, N. J.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.

NAPHTHENATES (see Copper Naphthenate, Zinc Naphthenate)

NAPHTHENIC ACIDS (and Sulfonic Sludges)

Advance Solvents & Chem. Co., 245—5th Ave., N. Y.
Atlantic Refining Co., 260 Broad St., Philadelphia
General Petroleum Corp., 108 W. 2nd St., Los Angeles
Hummel Chem. Co., 90 West St., N. Y.
Nuodex Prods. Co., Elizabeth, N. J.
Oronite Chem. Co., Russ Bldg., San Francisco 4
Pennsylvania Refining Co., Butler, N. J.
Petroleum By-Products Co., 15 Whitehall St., N. Y.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Sherwood Refining Co., Englewood, N. J.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Stanco Distributors, Inc., 216 W. 14th St., N. Y.

NICKEL-CLAD EQUIPMENT (see also Soap Machinery)

Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Houchin Machinery Co., Hawthorne, N. J.
International Nickel Co., 67 Wall St., N. Y.
Alan Porter Lee, Inc., 136 Liberty St., N. Y.
Littleford Bros., 453 E. Pearl St., Cincinnati
Lukens Steel Corp., Coatesville, Pa.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
F. J. Stokes Machine Co., Philadelphia
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

NICOTINE COMPOUNDS

California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, Calif
E. I. du Pont de Nemours, Wilmington, Del.
General Chemical Co., 40 Rector St., N. Y.
Hood River Spray Co., Hood River, Ore.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Sanocide Spray Co., Fennville, Mich.
Tobacco By-Products & Chem. Corp., Louisville

NITRE CAKE (Sodium Acid Sulfate)

Amer. Agricultural Chem. Co., 50 Church St., N. Y.
Amer. Cyanamid & Chem. Co., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
General Chemical Co., 40 Rector St., N. Y.
Chas. Lennig & Co., 222 W. Washington Sq., Philadelphia
Monsanto Chemical Co., 1724 S. 2nd St., St. Louis
Penna Salt Mfg. Co., Philadelphia
E. M. Sergeant Pulp & Chem., 7 Dey St., N. Y.

NITROPARAFFINS

Commercial Solvents Corp., 17 E. 42nd St., N. Y.

NON-SOAP DETERGENTS (see Detergents, Synthetic)

NOVELTY SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Illustrated Soap Co., 151 W. 25th St., N. Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Peck's Prods. Co., St. Louis,
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Unique Soaps, P. O. Box No. 61, Covington, Ky.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

ODORLESS KEROSENE (see Petroleum Insecticide Base Oils, Deodorized)

OIL, BASE, (see Petroleum Insecticide Base Oils)

OIL HYDROGENATION PLANTS

William Garrigue Co., 9 S. Clinton St., Chicago
Alan Porter Lee, 136 Liberty St., N. Y.
Robinson, Butler, Hemingway & Co., Bound Brook. N. J.
Struthers Wells Titusville Corp., Warren, Pa.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

OIL MILL EQUIPMENT

V. D. Anderson Co., 1935 W. 96th St., Cleveland
Bauer Bros. Co., Springfield, O.
Buckeye Iron & Brass Works, Dayton, O.
French Oil Mill Mach. Co., Piqua, O.
William Garrigue Co., 9 S. Clinton St., Chicago
Alan Porter Lee, Inc., 136 Liberty St., N. Y.
Robinson, Butler, Hemingway Co., Bound Brook, N. J.
Ernest Scott & Co., Fall River, Mass.
Sprout Waldron & Co., Muncy, Pa.
Struthers-Wells Co., Warren, Pa.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

OIL SOAP (see Potash Soaps)

OLEIC ACID (see Red Oil)

OLIVE OIL (Commercial)

(see also Brokers and Dealers)

Irving R. Boody & Co., 120 Wall St., N. Y.
T. G. Cooper & Co., 47 N. 2nd St., Phila.
Eastern Industries, Inc., Ridgefield, N. J.
W. R. Grace & Co., 7 Hanover Sq. N. Y.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
J. H. Redding Co., 17 Battery Pl., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

OLIVE OIL FOOTS

(see also Brokers and Dealers)

T. G. Cooper & Co., 47 N. 2nd St., Philadelphia
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
J. H. Redding Co., 17 Battery Pl., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

OLIVE OIL SOAPS (see Castile Soaps, Textile Soaps)

ORTHODICHLORBENZENE (see listings under Paradichlorbenzene)

OXALIC ACID

(see also Dealers)

Amer. Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
E. I du Pont de Nemours & Co., Inc., Wilmington, Del.
Faesy & Besthoff, Inc., 22 E. 40th St., N. Y.
General Chemical Co., 40 Rector St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chemical Wks., St. Louis, Mo.
Merck & Co., Rahway, N. J.
S. B. Penick & Co., 50 Church St., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Tamms Silica Co., 228 N. La Salle St., Chicago
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Works, 141 W. Jackson Blvd., Chicago

PACKAGING (for the Trade)

Emfo Corp., 87 Maiden Lane, N. Y.
R. Gesell, Inc., 206 W. Houston St., N. Y.
McKay-Davis Co., 851 Islington St., Toledo
Packaging Service, 2458 W. 63rd St., Chicago.
Stevens Wiley Mfg. Co., Hancock, Palethorp & W. Berks Sts., Phila. 22, Pa.
Trans-Pac Services, Inc., 602 W. 52nd St., N. Y.

PACKAGING MACHINERY (see Cartoning Machy., Filling Machy., Weighing Equip., Wrapping Machy.)

PAILS (Fibre) (see Barrels, Fibre)

PAILS, STEEL (Receptacles), (see Metal Pails)

PAILS, STEEL, (Shipping Containers)

American Can Co., 230 Park Ave., N. Y.
Bennett Mfg. Co., 14600 Princeton Ave., Chicago
Cans, Inc., 3217 W. 47th Pl., Chicago
Central Can Co., 2415 W. 19th St., Chicago
Continental Can Co., 100 E. 42nd St., N. Y.
Fein's Tin Can Co., Bush Terminal, Brooklyn
Gueder, Paeschke & Frey Co., Milwaukee
Inland Steel Container Co., 6532 S. Menard Ave., Chicago
National Can Co., 110 E. 42nd St., N. Y.
National Steel Barrel Co., 3860 E. 91st St., Cleveland
Pittsburgh Can Co., Pittsburgh, Pa.
Pressed Steel Tank Co., 5717 Greenfield Ave., Milwaukee
Rheem Mfg. Co., 570 Lexington Ave., N. Y.
F. C. Thornton Co., 6712 Union Ave., Cleveland
John Trageser Steam Copper Works, Maspeth, L. I.
Vulcan Stamping & Mfg. Co., Bellwood, Ill.
Wheeling Corrugating Co., Wheeling, W. Va.

PAILS (Wooden)

Beaver Mills, Keene, N. H.
Eagle Woodenware Mfg. Co., Hamilton, O.
Gambrinus Cooperage Works, Louisville
Impervious Package Co., Keene, N. H.
Menasha Woodenware Co., Menasha, Wis.
Richmond Cedar Works, Richmond, Va.

PALM KERNEL OIL

(see also Brokers and Dealers)

Balfour Guthrie & Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 120 Wall St., N. Y.
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco, Calif.
Spencer Kellogg & Sons, Buffalo, N. Y.
J. H. Redding Co., 17 Battery Pl., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Zimmerman Alderson Carr Co., 25 Broadway, N. Y.

PALM OIL

(see also Brokers and Dealers)

Balfour Guthrie & Co., 67 Wall St., N. Y.
T. G. Cooper & Co., 47 N. 2nd St., Phila.
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
Eastern Industries, Ridgefield, N J.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding Co., 17 Battery Pl., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y
Stein, Hall & Co., 285 Madison Ave., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Zimmerman Alderson Carr Co., 25 Broadway, N. Y.

PALM OIL FATTY ACIDS (see Fatty Acids)

PAPER CANS (see Cans)

PAPER (Corrugated) (see Boxes, Corrugated)

PAPER CUPS

F. N. Burt Co., Batavia, N. Y.
Continental Can Co., 100 E. 42nd St., N. Y.
Individual Drinking Cup Co., Easton, Pa.
Sutherland Paper Co., Kalamazoo, Mich.

PAPER (Fancy Wrapping)

Aluminum Co of America, Gulf Bldg., Pittsburgh
A. M. Collins Mfg. 1518 Walnut St., Phila.
Louis Dejonge & Co., 155—6th Ave., N. Y.
C. J. Fox Co., 236 Abron St., Providence, R. I.
Fox Paper Co., Lockland, Cincinnati, O.
Hampden Glazed Peper & Card Co., Holyoke, Mass.
Henderson Lithographing Co., Cincinnati
Keller-Dorian Paper Co., 516 W. 34th St., N. Y.
New England Card & Paper Co., Springfield, Mass
Pictorial Package Co., Aurora, Ill.
Marquette Lithograph Co., 730 N. Franklin St., Chicago
Nashua Gummed & Coated Paper Co., Nashua, N. H.
Potomac Lithograph Mfg. Co., Washington, D. C.
Richardson Co., Lockland, O.
Geo. Schmitt & Co., 253 Maujer St., Brooklyn
Louis Schulman Co., 465 Broome St., N. Y.
Strobridge Lithographing Co., Cincinnati
Sylvania Industrial Corp., 122 E. 42nd St., N. Y.
Tamm & Co., 61 E. 11th St., N. Y.
Transcello Paper Co., Milwaukee, Wisc.
U. S. Printing & Lithographing Co., Cincinnati, O.
Whiting-Paterson Co., Inc., 320—13th St., Philadelphia
Chas. W. Williams & Co., Inc., 309 Lafayette St., N. Y.

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Hoberg Paper & Fibre Co., Green Bay, Wisc.
Scott Paper Co., Chester, Pa.
Straubel Paper Co., Green Bay, Wisc.
Towlsaver, Inc., 2816 E. 11th St., Los Angeles
U. S. Envelope Co., Fulton, N. Y.
U. S. Envelope Co., Lititz Pa.
Victoria Paper Mills Co., Fulton, N. Y.

PARA BLOCKS (see Deodorizing Blocks)

PARADICHLORBENZENE

Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Hooker Electrochemical Co., Niagara Falls, N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Phillipp Bros., 70 Pine St., N. Y.
Rid-O-Moth Corp., South Kearny, N. J.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.

PARAFFIN

Atlantic Refining Co., 260 S. Broad St., Philadelphia
Borne-Scrymser Co., Elizabeth ,N J.
E. A. Bromund Co., 258 Broadway, N. Y.
Cornelius Products Co., 432 4th Ave., N. Y.
Distributing & Trading Co., 444 Madison Ave., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Gulf Refining Co., Pittsburgh
Industrial Raw Materials Corp., 52 Wall St., N. Y.
Innis, Speiden & Co., 117 Liberty St, N. Y.
International Wax Refining Corp., 4415 Third Ave., Bklyn.
Lenape Trading Co., 233 Broadway, N. Y.
George H. Lincks, 155 John St., N. Y.
Oil States Petroleum Co., 233 Broadway, N. Y.
Pennsylvania Refining Co., Butler Pa.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630—5th Ave., N. Y.
Smith & Nichols, 121 Maiden Lane, N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co., (N. J.), 26 Broadway, N. Y.
Standard Oil Co.(Ohio), Midland Bldg., Cleveland
F. W. Steadman Co., 59 Pearl St., N. Y.
Strohmeyer & Arpe Co., 139 Franklin St., N. Y.
Texas Co., 135 E. 42nd St., N. Y.

PARAFFIN OILS

Atlantic Refining Co., 260 S. Broad St., Philadelphia
Deep Rock Oil Corp., 155 N. Clark St., Chicago
Gulf Refining Co., Pittsburgh
Industrial Raw Materials Corp., 52 Wall St., N. Y.
International Wax Refining Corp., 4415 Third Ave., Bklyn.
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630—5th Ave., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Skelly Oil Co., Skelly Bldg., Kansas City, Mo.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Calif), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
F. W. Steadman Co., 59 Pearl St., N. Y.

PARIS GREEN

Ansbacher-Siegle Corp., Rosebank, S. I
Chipman Chemical Co., Bound Brook, N. J.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours Co., Wilmington, Del.
General Chem. Co., 40 Rector St., N. Y.
Reichhold Chemicals, Inc., 105 Bedford Ave., Brooklyn
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Sherwin-Williams Co., Cleveland

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(see also Brokers and Dealers)

Irving R. Boody Co., 120 Wall St., N. Y.
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Spencer Kellogg & Sons, Buffalo, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Place, N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Southern Cotton Oil Co., Produce Exchange, N. Y.
A. E. Starkie, 5461 W. Division St., Chicago
Welch, Holme & Clark, 563 Greenwich St., N. Y.

PEARL ASH (see Potassium Carbonate)

PENNYROYAL OIL (see Essential Oils)

PEPPERMINT OIL (see Essential Oils)

PERCOLATORS (for solvent extraction)

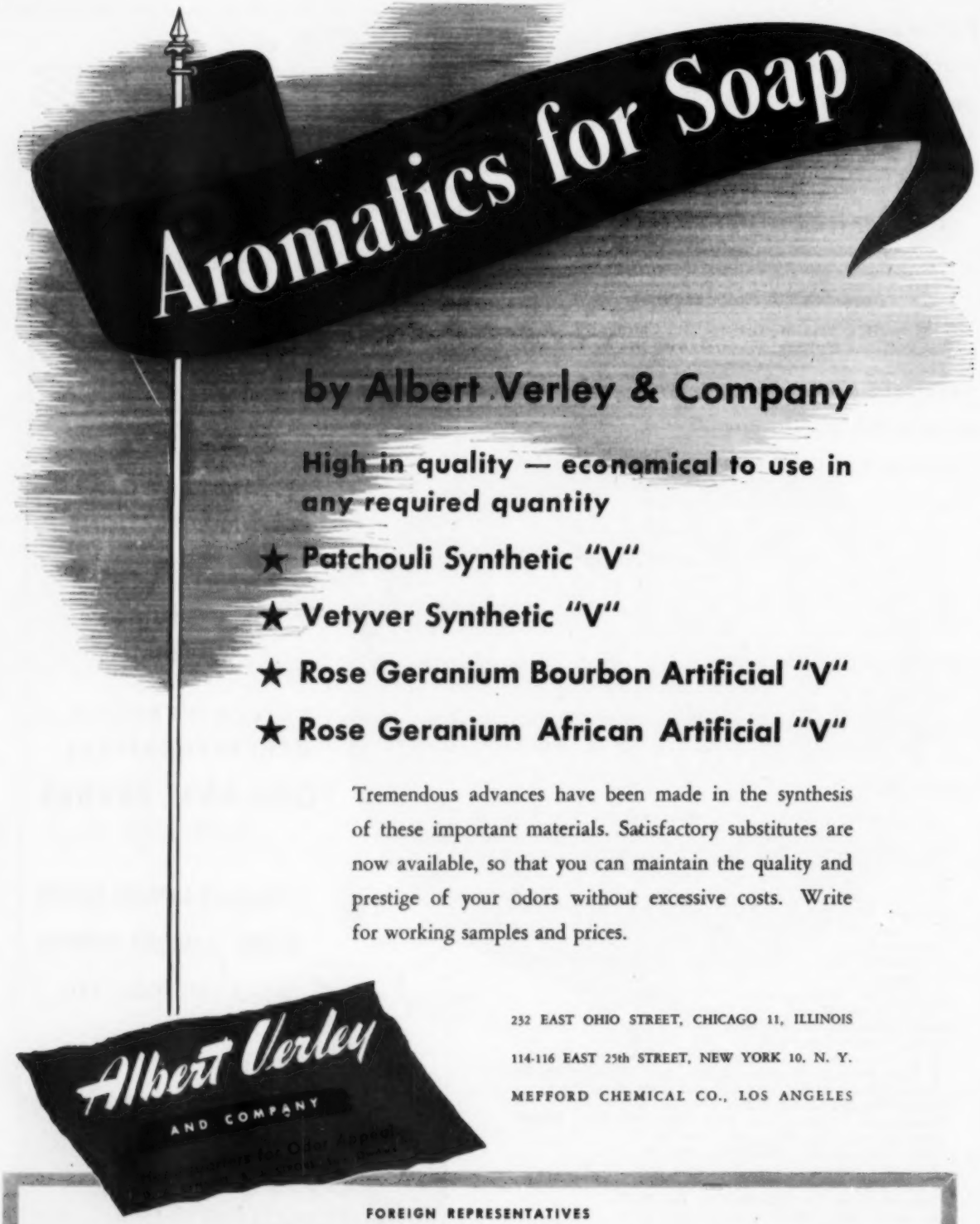
Brighton Copper Works, 2161 Kindel Ave., Cincinnati
Arthur Colton Co., Detroit, Mich.
Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Farlinger Rice Co., 56 N. 19th St., East Orange, N. J.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati, O.
Pfaulder Co., 89 East Ave., Rochester, N. Y.
F. J. Stokes Machine Co., Philadelphia

PERFUME DISSEMINATORS

Ellis Davidson Co., 40 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 932 W. 38th Place, Chicago
Robinson Clay Prod. Co., 101 Park Ave., N. Y.
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.

PERFUMING COMPOUNDS

American British Chemical Supplies, 180 Madison Ave., N. Y.
van Ameringen-Haebler, Inc., 315 Fourth Ave., N. Y.
Aromatic Products, Inc., 15 E. 30th St., N. Y.
Bendix Chem. Corp., 420 Lexington Ave., N. Y.
Bush Aromatics, Inc., 136 Liberty St., N. Y.
Centflor Mfg. Co., 6 Varick St., N. Y.
Ph. Chaleyer, Inc., 160 E. 56th St., N. Y.
Antoine Chiris Co., Inc., 115 E. 23rd St., N. Y.
Compagnie Duval, Division of S. B. Penick & Co., 50 Church St., N. Y.
Compagnie Parento, Croton-on-Hudson, N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
P. R. Dreyer Inc., 119 W. 19th St., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Firmenich & Co., 135 Fifth Ave., N. Y.
Florasynth Laboratories, 1513 Olmstead Ave., Bronx
Rene Forster Co., 404—4th Ave., N. Y.
Benj. French, Inc., 160 Fifth Ave., N. Y.
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Fuld Bros., 702-710 S. Wolfe St., Baltimore
General Drug Co., 125 Barclay St., N. Y.
R. Gesell, Inc., 200 W. Houston St., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 601 W. 26th St., N. Y.
Heine & Co., 54 Cliff St., N. Y.
Hymes Bro. Co., 37 Howard St., N. Y.
Kay-Fries Chemicals, Inc., 180 Madison Ave., N. Y.
Lanoix Chem. Co., 549 W. Randolph St., Chicago
Lautier Fils, 158 W. 18th St., N. Y.
Pierre Lemoine, 67 Cortland St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
A Maschmeijer, Jr., Inc., 43 W. 16th St., N. Y.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Neuman-Buslee & Wolfe, 224 W. Huron St., Chicago
New York Aromatics Co., 153 Waverly Pl., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
Polak's Frutal Wks., Inc., 36-14—35th St., L. I. City
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Edward Remus & Co., 11 W. 42nd St., N. Y.
Roure-DuPont, Inc., 366 Madison Ave., N. Y.
H. C. Ryland, Inc., 161 Water St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y
Edwin Seebach Co., 912 Broadway, N. Y.
Seeley & Co., 136 Liberty St., N. Y.
C. A. Seguin, 2141 W. North, Chicago
Wm. G. Sibbach & Co., 201 2nd Ave., Maywood, Ill.
Sparhawk Co., Sparkill, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Products Corp., 12 E. 22nd St., N. Y.
Ungerer & Co., 161 Sixth Ave., N. Y.
Van Dyk & Co., Belleville, N. J.
Albert Verley, Inc., 232 E Ohio St., Chicago

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Industrial Raw Materials Corp., 52 Wall St., N. Y.
Malone Oil Co., 2199 E. 18th St., Cleveland
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 400 Madison Ave., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Shell Oil Co., 50 W. 50th St., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630 Fifth Ave., N. Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Stanco Distributors, Inc., 216 W. 14th St., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (N. J.), 26 Broadway, N. Y.
F. W. Steadman Co., 59 Pearl St., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

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Anderson-Prichard Oil Corp., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Beacon Oil Co., Everett, Mass.
Commerce Petroleum Co., 2923 Lock St., Chicago
Deep Rock Oil Corp., 155 N. Clark St., Chicago
Empire Oil Co., Oil City, Pa.
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Oil Service Co., Warren, Pa.
Pennsylvania Refining Co., Butler, Pa.
Pennzoil Co., Oil City, Pa.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Shell Oil Co., 50 W. 50th St., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630 Fifth Ave., N. Y.
Skelly Oil Co., Skelly Bldg., Kansas City, Mo.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
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Standard Oil Co. (N. J.), 26 Broadway, N. Y.
Sun Oil Co., 1608 Walnut St., Philadelphia
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Tidewater Oil Co., 11 Broadway, N. Y.

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EXCEEDS N.A.I.D.M. SPECIFICATIONS

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Specific Gravity	0.777	— 0.784
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Flash Point	170°	—180° F.
Fire Point	185°	—195° F.
Initial Boiling Point	385°	—395° F.
Distillation End Point	485°	—495° F.
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Color		Water White
Odor		Odor-Free

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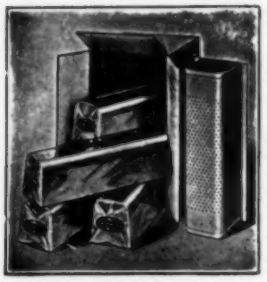

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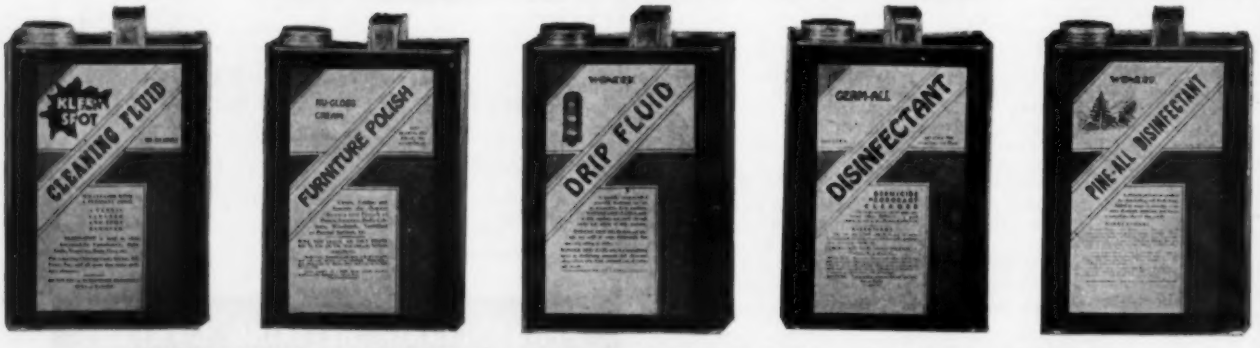

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Sinclair Refining Co., 630-5th Ave., New York
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Stanco Distributors, Inc., 216 W. 14th St., N. Y.
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Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago

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Dow Chemical Co., Midland, Mich.
Heyden Chemical Corp., 393 7th Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Reilly Tar & Chem. Corp., Indianapolis

PHENOL-COEFFICIENT DETERMINATIONS (see Consultants)

PHENYL ACETIC ALDEHYDE (see Aromatic Chemicals)

PHENYL ETHYL ALCOHOL (see Aromatic Chemicals)

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National Technical Labs., 820 Mission St., South Pasadena, Calif.
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Crosby Chemicals, Inc., Picayune, Miss.
Dixie Pine Prods. Co., Hattiesburg, Miss.
Glidden Co., Naval Stores Div., Jacksonville, Fla.
Gulf Naval Stores Supply Co., Whitney Bldg., New Orleans
Hercules Powder Co., Wilmington, Del.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
National Turp. Prods. Co., Gulf Point, Fla.
Newport Industries, Inc., 230 Park Ave., N. Y.
Phoenix Naval Stores Co., Gulfport, Miss.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Southern Pine Chem. Co., Box 389, Jacksonville
Taylor, Lowenstein & Co., Mobile, Ala.
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PINE NEEDLE OIL (see Essential Oils)

PINE SCRUB SOAPS (see also Floor Scrub Soaps)

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Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago
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Baird & McGuire, Inc., 1200 Switzer Ave., St. Louis
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Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y.
Churchill Mfg. Co., Galesburg, Ill.
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Eagle Soap Corp., Huntington, Ind.
Eagle Soap Co., 205 Navy St., Brooklyn.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2116 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
House of Milo, 628 N. 9th St., Birmingham
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Hysan Products Co., 932 W. 38th Place, Chicago
Kranich Soap Co., 60 Richards St., Brooklyn
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National Oil Products Co., Harrison, N. J.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5224 N. 2nd St., St., Louis
Puritan Chem. Co., 209 Peters St., S. W., Atlanta
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
R. G. A. Laboratories, 145 W. 45th St., N. Y.
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Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
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Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
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John T. Stanley Co., Inc., 642 W. 30th St., N. Y.
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Thompson & Hayward Chem. Co., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
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Gulf Naval Stores Supply Co., Whitney Bldg., New Orleans
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Newport Industries. Inc., 230 Park Ave., N. Y.
Southern Pine Chem. Co., Box 389, Jacksonville
Taylor, Lowenstein & Co., Mobile, Ala.

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Sennewald Drug Co., 2723 Chouteau Ave., St. Louis
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York Chemical Co., 424 W. 18th St., N. Y.

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Banner Chemical Prod. Corp., 329 Mulberry St., Newark N. J.
Baum's Castorine Co., 200 Mathew St., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 109 Ave. L, Newark, N. J.
Buckingham Wax Corp., Borden Ave. and Van Dam St., L. I. City, N. Y.
Candy & Co., 2515 W. 35th St., Chicago
Cary Mfg. Co., 4917 E. Michigan St., Indianapolis
Chemical Compounding Corp., 262 Huron St., Brooklyn
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Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Laboratories, 22-19 37th Ave., L. I. City, N. Y.
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Crowell Chemical Co., East Rutherford, N. J.
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Elkay Products Corp., 323 W. 16th St., N. Y.
Empire Chem. Prods. Co., 12 Longworth Ave., Newark, N. J.
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Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
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Hockwald Chem. Co., 135 Mississippi St., San Francisco
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Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hull Co., 305 Washington St., Brooklyn
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Masury-Young Co., 76 Roland St., Boston
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National Oil Products Co., Harrison, N. J.
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National Sanitary Prods. Co., 217 N. 2nd St., St. Louis
Oil Specialties & Refining Co., 109 Walworth St., Bklyn.
Palmer Products, Inc., Waukesha, Wisc.
Perrow Chemical Co., Hurt, Va.
Pioneer Mfg. Co., 3053 E. 87th St., Cleveland
Puritan Chem. Co., 209 Peters St., S. W., Atlanta
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
R. G. A. Laboratories, 145 W. 45th St., N. Y.
Rex-Cleanwall Corp., Brazil, Ind.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Scranton Chem. Co., Scranton, Pa.
Selig Co., 336 Marietta St., Atlanta, Ga.
Shawmut Specialty Co., 313 Centre St., Boston
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Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
H. F. Staples Co., Medford, Mass.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Works, 3 Winter St., Worcester, Mass.
Tesco Chem. Co., P. O. Box 4748, Atlanta
Transmotive Labs., 2550 S. Mich. Ave., Chicago
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Twin City Shellac Co., 340 Flushing Ave., Bklyn.
Twi-Laq Chemical Co., 25 No. Portland Ave., Brooklyn
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Universal Chem. Corp., 35 E. Market St., Akron, O.
Victory Chem. Co., 148 Fairmont Ave., Phila.
T. F. Washburn Co., 2244 Elston Ave., Chicago
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Windsor Wax Co., 611 Newark St., Hoboken, N. J.

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Diamond Alkali Co., 535 Smithfield St., Pittsburgh
E. I. du Pont de Nemours & Co., Wilmington
Innis, Speiden & Co., 117 Liberty St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Westvaco Chlorine Prods. Co., 405 Lexington Ave., N. Y.

POTASH SOAPS (Soft Soaps, Liquid Soaps, Shampoo Soaps, etc.)

American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 4-88—7th Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour Soap Wks., 1355 W. 31st St., Chicago
Banner Chemical Products Corp., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Boston Chemical Industries, 64 E. Brookline St., Boston
Bri-Test Prods. Corp., 109 Ave. L, Newark, N. J.
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Chemical Mfg. & Distrib. Co., Easton, Pa.
Chemical Service Co., Baltimore
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., Galesburg, Ill.
Clifton Chemical Co., 62 William St., N. Y.
Cole Labs., 22-19 37th Ave., L. I. City, N. Y.
James Counts Soap Co., 2nd & Washington Aves., St. Louis, Mo.
Creco Co., Creco Bldg., L. I. City, N. Y.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Davies Young Soap Co., Dayton, Ohio
Eagle Soap Corp., Huntington, Ind.
Eagle Soap Co., 205 Navy St., Bklyn.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
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James Good, Inc., 2116 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, Ohio
Hysan Products Co., 932 W. 38th Place, Chicago
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
Kranich Soap Co., 54 Richards St., Brooklyn
Laurel Soap Mfg. Co., Tioga & Almond Sts., Philadelphia
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
Masury-Young Co., 76 Roland St., Boston
Midland Labs., Dubuque, Ia.
National Oil Products Co., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Chem. & Soap Wks., Seattle, Wash.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati, O.
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
R. G. A. Laboratories, 145 W. 45th St., N. Y.
Riverside Chem. Co., N. Tonawanda, N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rochester Germicide Co., Rochester, N. Y.
Royal Soap & Chem. Co., 511 S. Central Ave., Los Angeles
Rubon Woodfinishing & Prods. Co., 500 W. 7th St., Kansas City, Mo.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schaeffer Bros. & Powell Mfg. Co., 102 Barton St., St. Louis, Mo.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Tech Soap Co., 125 W. 46th Place, Chicago, 9
Tesco Chem Co., P. O. Box 4748, Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Thompson-Hayward Chemical Co., Kansas City, Mo.
Tremco Mfg. Co., 393 East 131st St., Cleveland
Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Chas. W. Young & Co., 1247 N. 26th St., Philadelphia

POTASSIUM CARBONATE

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Croton Chem. Corp., 114 Liberty St., N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
E. I. du Pont de Nemours & Co., Wilmington, Del.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Harshaw Chem. Co., Cleveland
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

POTASSIUM PERSULFATE

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Buffalo Elec. Chem. Co., River Rd., Buffalo, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Penn. Salt Mfg. Co., Widener Bldg., Phila.
Sergeant Chem. Co., 7 Dey St., N. Y.
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Anchor Hocking Glass Corp., Lancaster, O. (glassware)
Goody Mfg. Co., 15 E. 22nd St., N. Y. (novelties)
Hazel-Atlas Co., Wheeling, W. Va. (glassware)
Holgate Co., Kane, Pa. (woodenware toys)
Keystone Processed Prods. Co., 683 Broadway, N. Y.

PRESSES (Automatic Soap)

Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
R. A. Jones & Co., Cincinnati, O.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
A. H. Ross & Co., Ludlow, Ky.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)

PRESSES (Foot and Hand Lever for Soap and Para Cakes)

Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
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Stein Equipment Corp., 426 Broome St., N. Y. (Used)
F. J. Stokes Mach. Co., Philadelphia, Pa.

PRIVATE FORMULAS (see under individual products)

PRIVATE LABEL PACKAGING, FILLING (see packaging for the trade)

PUMICE

California Industrial Minerals Co., Friant, Calif.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Pumice Corp. of America, Grants, N. M.
Wm. P. Rogers, 44 Woodman St., Lynn, Mass.
Tamms Silica Co., 228 N. La Salle St., Chicago
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.

PUMPS

Aldrich Pump Co., 1 Pine St., Allentown, Pa.
Alsop Engineering Corp., 103 Green St., Milldale, Conn.
American Steam Pump Co., Battle Creek, Mich.
Beach-Russ Co., 50 Church St., N. Y.
Blackmer Pump Co., Grand Rapids, Mich.
S. F. Bowser & Co., Ft. Wayne, Ind.
Buffalo Forge Co., 490 Broadway, Buffalo, N. Y.
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
M. T. Davidson Co., 154 Nassau St., N. Y.
Eastern Engineering Co., 45 Fox St., New Haven, Conn.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Foster Pumps, Inc., 51 Washington St., Brooklyn, N. Y.
Goulds Pumps, Inc., Seneca Falls N. Y.
Joshua Hendy Iron Wks., Pomona, Calif.
Houchin Machinery Co., Hawthorne, N. J.
Ingersoll-Rand Co., 11 Broadway, N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Lobee Pump & Machine Co., Buffalo, N. Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
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PUMPS (Contd.)

H. K. Porter Co., Oliver Bldg., Pittsburgh
Scientific Filter Co., 12 Franklin Square, N. Y.
T. Shriver & Co., Harrison, N. J.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
F. J. Stokes Machine Co., Philadelphia, Pa.
Taber Pump Co., 278 Elm St., Buffalo, N. Y.
Viking Pump Co., Cedar Falls, Iowa
Worthington Pump & Machinery Co., 2 Park Ave., N. Y.

PYRETHRUM FLOWERS AND POWDER

Allaire Woodward & Co., Peoria, Ill.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Derris, Inc., 79 Wall St., N. Y.
Dodge & Olcott Inc., 60 E. 42nd St., N. Y.
Greene Trading Co., 10 Cedar St., N. Y. (agents for foreign sellers)
Hammond Paint & Chemical Co., Beacon, N. Y.
J. L. Hopkins & Co., 220 Broadway, N. Y.
McCormick & Co., Baltimore, Md.
McLaughlin, Gormley King Co., 1715 Fifth St., S. E., Minneapolis, Minn.
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.

PYRETHRUM EXTRACT

Allaire Woodward & Co., Peoria, Ill.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Associated Chemists, Inc., 1906 N. Halsted St., Chicago.
Chemical Sales Corp., Pittsburgh 19
Dodge & Olcott Inc., 60 E. 42nd St., N. Y.
Hammond Paint & Chemical Co., Beacon, N. Y.
J. L. Hopkins & Co., 220 Broadway, N. Y.
McCormick & Co., Baltimore
McLaughlin Gormley King Co., 1715 Fifth St., S. E., Minneapolis
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.

PYROPHYLLITE

Attapulgus Clay Co., 260 S. Broad St., Phila.
Carolina Pyrophyllite Co., 10 E. 40th St., N. Y.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 120 Wall St., N. Y.
Tamms Silica Co., 229 N. LaSalle St., Chicago
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker, Clark & Daniels, 260 W. Bway, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

QUATERNARY AMMONIUM COMPOUNDS

E. I. du Pont de Nemours & Co., Wilmington
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis
Onyx Oil & Chem. Co., Jersey City, N. J.
Penna. Salt Mfg. Co., Widener Bldg., Phila.
Richards Chem. Co., Jersey City, N. J.
Rohm & Haas, 222 W. Washington Sq., Phila.
Winthrop Chem. Co., 170 Varick St., N. Y.

RAPESEED OIL

Balfour, Guthrie & Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 120 Wall St., N. Y.
T. G. Cooper & Co., 47 N. 2nd St., Philadelphia
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Pl., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Smith-Weihman Co., 15 Moore St., N. Y.
A. E. Starkie, 5461 W. Division St., Chicago
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
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Associated Chemists, Inc., 1906 N. Halsted Ave., Chicago
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Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Eagle Soap Corp., Huntington, Ind.
Elkay Products Co., 323 W. 16th St., N. Y.
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Goulard & Olena, Inc., 140 Liberty St., N. Y.
Foote Mineral Co., 1609 Summer St., Philadelphia
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Hysan Products Co., 932 W. 38th Place, Chicago
Innis, Speiden & Co., 117 Liberty St., N. Y.
Ketoid Chem. Co., 339 S. Van Deventer, St. Louis
Lethelin Products Co., Mt. Vernon, N. Y.
Lewis Soap & Chem. Co., 2210 San Pablo Ave., Oakland, Calif.
O. E. Linck Co., 51 James St., Montclair, N. J.
Maywood Pest Exterminators, Maywood, Ill.
John Opitz, Inc., 50-14 39th St., Long Island City, N. Y.
S. P. Penick & Co., 50 Church St., N. Y. C.
Per-Mo Products Co., 3604 Woodland Ave., Kansas City, Mo.
Pfaltz & Bauer, Inc., 350 Fifth Ave., N. Y.
Ratin Laboratories, Inc., 112 Broad St., N. Y.
Sennewald Drug Co., 2723 Chouteau Ave., St. Louis
Shores Co., Cedar Rapids, Iowa
Sparhawk Co., Sparkill, N. Y.
Sur-Rid Prods. Co., 455 Paul Brown Bldg., St. Louis
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Victory Chem. Co., 148 Fairmount Ave., Philadelphia
York Chemical Co., 424 W. 18th St., N. Y.

RAT POISONS (see Squills, Phosphorous Paste, Thallium Sulfate, etc.)

RED OIL (Oleic Acid)

(see also Brokers and Dealers)

American British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Armour Chem. Div., 1355 W. 31st St., Chicago
Celina Stearic Acid Co., Celina, Ohio
Century Stearic Acid Candle Works, 41 E. 42nd St., N. Y.
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
Eastern Industries, Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
A. Gross & Co., 295 Madison Ave., N. Y.
Otto A. C. Hagen, Public Ledger Bldg., Philadelphia
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Harkness & Cowing, Ivorydale, Cincinnati
Procter & Gamble Co., Cincinnati
Theobald Industries, Kearny, N. J.
Arthur C. Trask Co., 4108 S. La Salle St., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
M. Werk Co., St. Bernard, Cincinnati
Wilson-Martin Co., Snyder Ave. & Swanson St., Philadelphia
Woburn Chem. Corp., Harrison, N. J.

REFINING EQUIPMENT (Glycerine)

E. B. Badger Co., 25 Pitts St., Boston
Buffalo Foundry & Machine Co., Buffalo, N. Y.
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
First Machy. Corp., 157 Hudson St., N. Y. (Used)
William Garrigue & Co., 9 S. Clinton St., Chicago
Alan Porter Lee, Inc., 136 Liberty St., N. Y.
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Ernest Scott & Co., Fall River, Mass.
Struthers-Wells Co., Warren, Pa.
Walter E. Simmons Co., Boston

REFINING EQUIPMENT (Glycerine) (Contd.)

Stein Equipment Corp., 426 Broome St., N. Y. (Used)
Swenson Evaporator Co., Harvey, Ill.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

REFRIGERATING EQUIPMENT

H. Loeb & Son, 4600 Lancaster Ave., Philadelphia
York Ice Machine Co., York, Pa.

REMELTERS

Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Patterson Foundry & Mach. Co., East Liverpool, O.
Patterson-Kelley Co., East Stroudsburg, Pa.
Struthers-Wells Co., Warren, Pa.
Wurster & Sanger, Inc., 5201 Kenwood Ave., Chicago

RESINS, SYNTHETIC

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Bakelite Corp., 300 Madison Ave., N. Y.
Barrett Co., 40 Rector St., N. Y.
Durez Plastics, Inc., North Tonawanda, N. Y.
Hercules Powder Co., Wilmington, Del.
General Electric Co., Bridgeport, Conn.
Krumbhaar Chemicals, Inc., South Kearney, N. J.
Monsanto Chem. Co., St. Louis
Paramet Chem. Corp., 44th Ave. & 10th St., L. I. City
Reilly Tar & Chem. Corp., Indianapolis
Reichhold Chemicals, Inc., Detroit
Resinous Prods. & Chem. Corp., 222 W. Washington Sq., Philadelphia
Velsicol Corp., 120 E. Pearson St., Chicago
Warwick Chemical Co., West Warwick, R. I.
U. S. Industrial Chemicals, Inc., Lincoln Bldg., N. Y.

RESPIRATORS

Davis Emergency Equipment Co., 55 Vandam Ave., New York
Mine Safety Appliances Co., Braddock and Thomas Sts., Pittsburgh

RHODINOL (see Aromatic Chemicals)

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John Opitz, Inc., 50-14 39th St., L. I. City, N. Y.
Sennewald Drug Co., 2723 Chouteau Ave., St. Louis

ROACH POWDERS (see Household Insecticides, Powder)

ROSE OIL (see Essential Oils)

ROSEMARY OIL (see Essential Oils)

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Antwerp Naval Stores Co., Savannah, Ga.
E. W. College, General Sales Agent, P. O. Box 389, Jacksonville, Fla.
Continental Turp. & Rosin Corp., Laurel, Miss.
Crosby Chemicals, Inc., Picayune, Miss.
Dixie Pine Prods. Co., Hattiesburg, Miss. (wood)
Georgia Rosin Prods. Co., Brunswick, Ga.
Glidden Co., Naval Stores Div., P. O. Box 380, Jacksonville, Fla.
Hercules Powder Co., Wilmington, Del. (wood)
Industrial Chem. Sales Div., West Va., Pulp & Paper Co., 230 Park Ave., N. Y.
Newport Industries, Inc., 230 Park Ave., N. Y.
Phoenix Naval Stores Co., Gulfport, Miss. (wood)
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Southern Pine Chem. Co., Box 389, Jacksonville
Taylor, Lowenstein & Co., Mobile, Ala.

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Derris, Inc., 79 Wall St., N. Y.
Dodge & Olcott, Inc., 60 E. 42nd St., N. Y.
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Chemical Supply Co., Plymouth Bldg., Cleveland
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Eagle Soap Co., 205 Navy St., Bklyn.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2116 Susquehanna Ave., Phila.
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Hockwald Chem. Co., 135 Mississippi St., San Francisco
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Hysan Prods. Co., 932 W. 38th Place, Chicago
Kwik Products Co., 451 W. 28th St., N. Y.
M & H Laboratories, 2705 Archer Ave., Chicago
Michel Export Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Ia.
National Oil Products Co., Harrison, N. J.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5234 N. 2nd St., St. Louis
Per-Mo Products Co., 3604-B Woodland Ave., Kansas City
Phila. Quartz Co., 125 S. 3rd St., Philadelphia
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Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Tech Soap Co., 125 W. 46th Pl., Chicago
Tesco Chem. Co., P. O. Box 4748. Atlanta
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Works, 3 Winter St., Worcester, Mass.

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Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
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Wilco Co., 6800 McKinley Ave., Los Angeles
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Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
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National Oil Products Co., Harrison, N. J.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
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John T. Stanley Co., 642 W. 30th St., N. Y.
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International Salt Co., 475 Fifth Ave., N. Y.
Jefferson Salt & Mining Co., Louisville, Ky.
LeRoy Salt Co., LeRoy, N. Y.
Michigan Chem. Corp., St. Louis, Mich.
Myles Salt Co., 1007 Camp St., New Orleans, La.
Penn. Salt Mfg. Co., Widener Bldg., Phila.
Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
Pomeroy Salt Co., Pomeroy, Ohio
Remington Salt Co., Ithaca, N. Y.
Saginaw Salt Prods. Co., Saginaw, Mich.
Solvay Sales Corp., 40 Rector St., N. Y.
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Eagle Soap Co., 205 Navy St., Bklyn.
Hewitt Soap Co., Dayton, O.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Kamen Soap Prods., Woolworth Bldg., N. Y.
Los Angeles Soap Co., Los Angeles
National Oil Products Co., Harrison, N. J.
Newell-Gutradt Co., San Francisco
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
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Florasynth Labs., 1513 Olmstead Ave., Bronx, N. Y.
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Interstate Color Co., 5 Beekman St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
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Fuld Bros., 702 S. Wolfe St., Baltimore
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Higley Chem. Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
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Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
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Los Angeles Soap Co., 617 E. First St., Los Angeles
Midland Labs., Dubuque, Ia.
National Milling & Chem. Co., Manayunk, Philadelphia
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Peck's Prods. Co., 5224 N. 2nd St., St. Louis
Penna. Salt Mfg. Co., 1000 Widener Bldg., Philadelphia
Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
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Procter & Gamble Co., Cincinnati
Puritan Chem. Co., 209 Peters St., S.W., Atlanta
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
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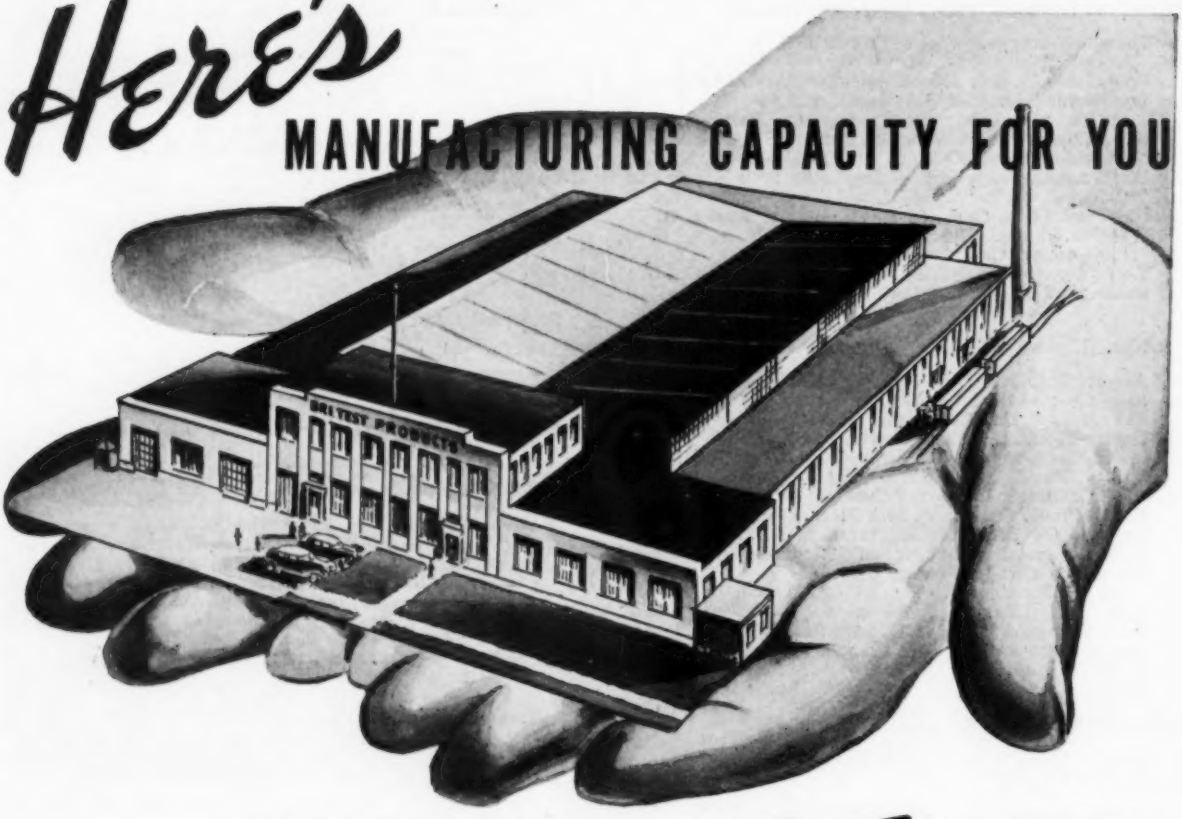

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Procter & Gamble Co., Cincinnati
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Theo. B. Robertson Prods. Co., 700 W. Division St. Chicago
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Trio Chem. Wks., 341 Scholes St., Bklyn.
J. A. Tumbler Labs., 423 Hanover St., Baltimore
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Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
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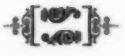

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Procter & Gamble Co., Cincinnati
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Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Superior Soap Corp., 121 Nostrand Ave., Bklyn., N. Y.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

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Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Lewis Soap & Chem. Co., Oakland, Calif.
Los Angeles Soap Co., 617 E. First St., Los Angeles
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Monsanto Chem. Co., St. Louis
National Oil Products Co., Harrison, N. J.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
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L. Sonneborn Sons, Inc., 88 Lexington Ave., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Bklyn, N. Y.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

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Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
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Bradshaw Praeger & Co., 3248 W. 47th Place, Chicago

Hooker Quality Chemicals for Soaps

Among the Hooker chemicals used in the soaps and sanitary chemicals industries are solvents, deodorizers, chlorinating agents, antiseptics and chemical intermediates. A few of these are listed below with their principal uses suggested. More complete information will be furnished on any of interest to you. Send also for the Hooker General Products List which describes many more Hooker chemicals.

PRODUCT (Chemical Formula Molecular Weight)	DESCRIPTION All Specific Gravities at 15.5°/15.5°C.	SUGGESTED USES
Benzoate of Soda C_6H_5COONa; 144.0	White, odorless, crystalline solid. Available in U.S.P. and Tech. grades.	Antiseptic in pharmaceutical and medicinal preparations, in tooth pastes and powders.
Benzoic Acid C_6H_5COOH; 122.1	White, crystalline material. Available in U.S.P. and Tech. Grades.	Ingredient of cosmetic creams, lotions and other preparations; Manufacture perfumes and pharmaceuticals.
Benzoyl Chloride (Benzenecarbonyl Chloride) C_6H_5COCl; 140.5	Water clear liquid soluble in ether; reacts with alcohol and water. Sp. Gr. 1.219±.003. Boiling Point 198°C. Freezing Point, Min. —0.9°C.	Highly active source of benzoyl group. Manufacture of benzophenone, benzyl benzoates, synthetic perfumes, dyes and pharmaceuticals.
Cyclohexanol (Hexahydro Phenol) $C_6H_{11}OH$; 100.1	Clear, colorless liquid with pleasant aromatic odor. Sp. Gr. 0.947. Boiling Range: High Grade, 158° to 162°C. Tech. Grade, 155° to 165°C.	In manufacture of disinfectants, germicides and insecticides, perfumes in soaps, solvent.
Methyl Benzoate (Niobe Oil) $C_6H_5COOCH_3$; 136.1	Clear, colorless liquid with odor resembling oil of wintergreen. Sp. Gr. 1.0930. Boiling Range 2°C Max. including 199° C.	Deodorizing material for soaps and in manufacture of perfumes.
Methyl Cyclohexanol (Hexahydro Cresol) $CH_3C_6H_{10}OH$; 114.1	Slightly viscous straw colored, neutral liquid which becomes glass-like when cooled below room temperatures. A mixture of ortho-, meta-, and para-isomers. Sp. Gr. 0.924 ± .003. Boiling Range 155° to 180° C.	Perfume in soaps and to incorporate solvents and phenolic insecticides; solvent.
Orthodichlorbenzene (1:2 Dichlorbenzene) $C_6H_4Cl_2$; 147	Clear, colorless liquid. Sp. Gr. 1.310±.005. Boiling range 60° C Max. including 179° C.	Solvent for natural and synthetic gums, resins, tars, grease, oil, fats. Manufacture of dye intermediates, synthetic organics.
Sulfur Dichloride SCl_2; 103	Dark brown or reddish liquid. Sp. Gr. 1.638± .005. Decomposes above 40° C. 60% Min. Cl_2 content.	Chlorinating agent, in manufacture of organic acid anhydrides and in organic synthesis.
Sulfur Monochloride S_2Cl_2; 135	Yellow to slightly reddish liquid. Sp. Gr. 1.690±.005. B. P. 138° C. 50% Min. Cl_2 content.	Manufacture of insecticides, linseed oil substitutes, dye intermediates, pharmaceuticals, organic acid chlorides.

HOOKER ELECTROCHEMICAL CO.
4701 Buffalo Ave., Niagara Falls, New York
NEW YORK, N. Y. • WILMINGTON, CALIF.
TACOMA, WASH.

Caustic Soda
Muriatic Acid
Ferric Chloride
Monochlortoluene
Paradichlorbenzene
Chlorine
Sodium Sulfide
Trichlorbenzene
Benzyl Alcohol
Sulfuryl Chloride
Thionyl Chloride

HOOKER CHEMICALS

Ampion Dispensers Are Dependable

PRODUCTS

Liquid Soap Dispensers
Liquid Soaps & Bases
Oils, Soaps, & Liquids
Disinfectants
DDT Insecticides
Waxes & Polishes
Deodorizing Blocks
Containers
and Allied Products

Ampion Liquid Soap Dispensers give maximum service because they are correctly designed and have stood the test of time over a long period of years.

To sell MORE Liquid Soap furnish your trade with dependable Ampion Dispensers.

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Gillespie-Rogers-Pyatt Co., 80 John St., N. Y.
Haeuser Shellac Co., 52 Warren St., Brooklyn, N. Y.
George H. Lincks, 155 John St., N. Y.
Mac-Lac Co., Inc., 127 Maiden Lane, N. Y.
Mantrose Corp., 136 41st St., Brooklyn, N. Y.
Schwab Bros. Corp., 102 Maiden Lane, N. Y.
Twin City Shellac Co., 338 Flushing Ave., Brooklyn
Wm. Zinsser & Co., 516 W. 59th St., N. Y.

SHOE POLISH DAUBERS

Alba Cook Co., Jersey City, N. J.
American Cork Specialty Co., 115 Sutton St., Bklyn, N.Y.
Applicator Brush Co., 87 Frankfort St., N. Y.
Applicator Co., 1512 Atlantic Ave., Bklyn., N. Y.
Armstrong Cork Co., Lancaster, Pa.

SIFTER TOP CANS (see Cans, Sifter Top)

SIFTING EQUIPMENT (see Screens)

SILICA

American Colloid Co., 363 W. Superior St., Chicago
California Industrial Minerals Co., Friant, Calif.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Co., 120 Wall St., N. Y.
E. I. du Pont de Nemours Co., Wilmington, Del.
Goris & Co., 8124 S. Hoyne Ave., Chicago
K. F. Griffiths & Co., 110 E. 42nd St., N. Y.
Hammill & Gillespie, 225 Broadway, N. Y.
Harshaw Chem. Co., Cleveland
Illinois Silica Co., Cairo, Ill.
Innis, Speiden & Co., 117 Liberty St., N. Y.
International Silica Co., Cairo, Ill.
Pennsylvania Pulverizing Co., Lewistown, Pa.
Jas. H. Rhodes & Co., 153 W. Austin Ave., Chicago
L. A. Salomon & Bro., 216 Pearl St., N. Y
Silica Prods Co., 700 Baltimore Ave., Kansas City, Mo.
A. E. Starkie, 5461 W. Division St., Chicago
Tamms Silica Co., 228 N. La Salle St., Chicago
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

SILICATE OF SODA (see Sodium Silicate)

SILICO FLUORIDES (see Sodium Silicofluoride)

SLABBERS (see Soap Machinery)

SOAP BARK and EXTRACT (see Saponin)

SOAP BOOKS (see Soap Paper)

SOAP, CASTILE (See Castile Soap)

SOAP, CHIP (see Chip Soap)

SOAP COLORS (See Colors)

SOAP DIES

Anthony J. Fries & Son Co., 717 Sycamore St., Cincinnati
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn, N. Y.
R. A. Jones & Co., 315 E. 15th St., Cincinnati
Jas. H. Matthews & Co., 3942 Forbes St., Pittsburgh
I. Schwartz Engraving & Die Works, 38 W. 21st St., N. Y.

SOAP DISPENSERS (Liquid)

Ampion Corp., 4-88 47th Ave., L. I. City, N. Y.
American Dispenser Co., 215 Fourth Ave., N. Y.

Expired?

WHEN YOU RECEIVE A NOTICE THAT YOUR SUBSCRIPTION TO *SOAP & SANITARY CHEMICALS* IS ABOUT TO EXPIRE, WILL YOU PLEASE SEND IN THAT OLD RENEWAL CHECK PRONTO? *SOAP & SANITARY CHEMICALS* IS A MEMBER OF THE A. B. C. (AUDIT BUREAU OF CIRCULATION) AND IF YOU DO NOT RENEW PROMPTLY, WE HAVE TO TAKE YOUR NAME OFF THE SUBSCRIPTION LIST . . . (A.B.C. RULE) . . . DON'T MISS ANY ISSUES . . . SEND IN YOUR CHECK PROMPTLY . . . $3.00 FOR ONE YEAR, $5.00 FOR TWO . . . FOREIGN SUBSCRIPTIONS, $4.00 FOR ONE YEAR, $7.00 FOR TWO.

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Bobrick Mfg. Corp., 2619 Santa Fe Ave., Los Angeles
Clifton Chemical Co., 62 William St., N. Y.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Garnet Chem. Corp., 911 N. Lumber St., Allentown, Pa.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Moore Bros. Co., 100 Warren St., N. Y.
Palmer Products, Inc., Waukesha, Wisc.
Rochester Germicide Co., Rochester, N. Y.
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

SOAP DISPENSERS (Powder)

Ampion Corp., 4-88 47th Ave., L. I. City, N. Y.
American Dispenser Co., 215 Fourth Ave., N. Y.
Bobrick Mfg. Corp., 2619 Santa Fe Ave., Los Angeles
Clifton Chemical Co., 62 William St., N. Y.
Federal Tool Corp., 412 N. Leavitt St., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Moore Bros. Co., 100 Warren St., N. Y.
Packwood Mfg. Co., St. Louis
Palmer Products, Inc., Waukesha, Wisc.
Presto Mfg. Co., 770 Cromwell Ave., St. Paul, Minn.
Rochester Germicide Co., Rochester, N. Y.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Sugar Beet Prods. Co., Saginaw, Mich.
Uncle Sam Chemical Co., 573 W. 131st St., St., N. Y. C.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Vasco Products Co., Elmira, N. Y.

SOAP DISPENSING SYSTEMS (Multi-unit with Tanks)

Ampion Corp., 4-88 47th Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
American Dispenser Co., 215 Fourth Ave., N. Y.
Bobrick Mfg. Corp., 2619 Santa Fe Ave., Los Angeles
Clifton Chemical Co., 62 William St., N. Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Moore Bros. Co., 100 Warren St., N. Y.
Palmer Products, Inc., Waukesha, Wis.
Rochester Germicide Co., Rochester, N. Y.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
West Disinfecting Co., Long Island City, N. Y.

SOAP DRYERS (see Dryers)

SOAP, FLAKE (see Chip Soap)

SOAP FRAMES (see Frames)

SOAP KETTLES (see Kettles)

SOAP, LINSEED OIL (see Potash Soaps)

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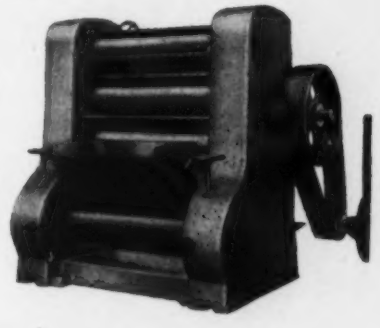
Lehmann Soap Machines are designed to perform their functions smoothly and efficiently and are built to "take it."

This dependability is all-important when production must be sustained. It means less time lost through lay-offs for repairs. A Lehmann engineer will be glad to discuss your requirements.



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LEHMANN SOAP PLODDER

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THE STANDARD FOR QUALITY IN MACHINERY

When any of your machines, through overlong service, do require reconditioning make use of the Lehmann Service Department.

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HOUCHIN SOAP MACHINES

— are designed and fabricated by men who know production requirements from years of cooperation with the nation's leading soap manufacturers.

Let Us Know What You Wish To Do. We will advise you what machines will do it efficiently.

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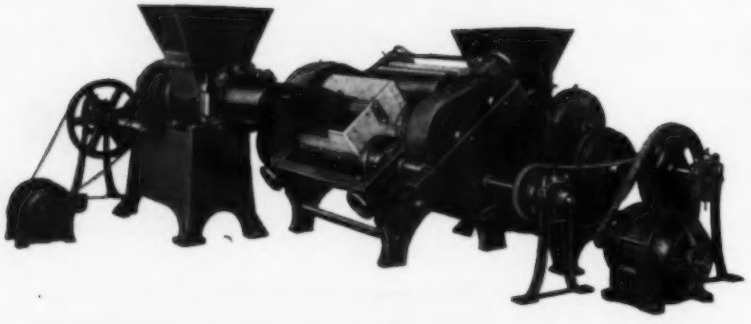

← **UNIT No. 2**

Capacity, 500 lbs. per hour.

UNIT No. 3

Capacity, 1,000 lbs. per hour.

(Not illustrated)

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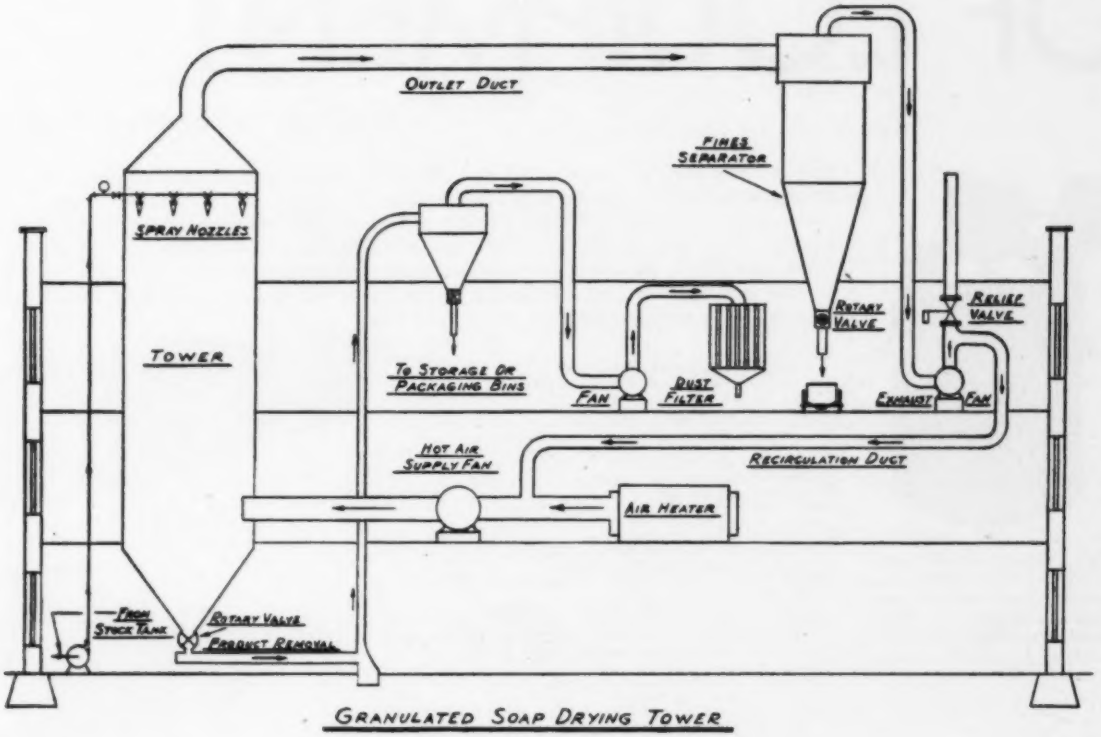

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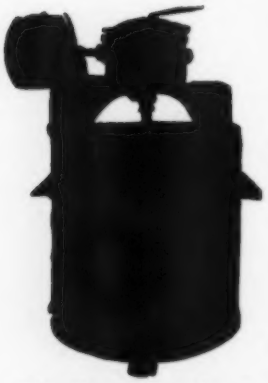
A COMPLETE LINE OF EQUIPMENT

For Soap and Sanitary Products



This Newman brand new all steel steam-jacketed soap crutcher will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap.

One of the regular features of our 47 years experience is the complete stock from which manufacturers may choose their requirements. You can always buy with confidence from NEWMAN whether your purchases be among the new crutchers, cutting tables and frames which we manufacture—or the complete line of rebuilt equipment which we offer. Our guarantee of customer satisfaction is made possible by the fact that all used equipment is rebuilt in our plant. No matter how large or small your requirements, we can supply you.

USED SPECIALS

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
Ralston Automatic Soap Presses.
Scouring Soap Presses.
Empire State, Dopp & Crosby Foot Presses.
2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
H-A 4 and 5 roll Steel Mills.
H-A Automatic and Hand-Power slabbers.
Proctor & Schwartz Bar Soap Dryers.
Blanchard No. 10-A and No. 14 Soap Powder Mills.
J. H. Day Jaw Soap Crusher.
H-A, 6, 8 and 10 inch Single Screw Plodders.
Allbright-Nell 10 inch Plodders.
Filling and Weighing Machines for Flakes, Powders, etc.
Wood and Steel Soap frames, all sizes.
Steam Jacketed Soap Remelters.
Automatic Soap Wrapping Machines.
Glycerin Evaporators, Pumps.
Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
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Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without sifter Tops.
Day Grinding and Sifting Machinery.
Schultz-O'Neill Mills.
Day Pony Mixers.
Gardiner Sifter and Mixer.
Proctor & Schwartz large roll Soap Chip Dryers complete.
Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
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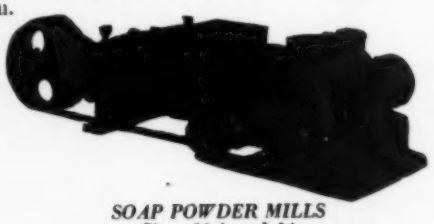
All types and sizes—Tanks and Kettles.
Ralston and H-A Automatic Cutting Tables.
Soap Dies for Foot and Automatic Presses.
Broughton Soap Powder Mixers.
Williams Crusher and Pulverizer.
National Filling and Weighing Machines.

Jones Automatic Soap Press.



SOAP POWDER MILLS
Sizes 10A and 14

Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed

Automatic Power Soap Cutting Tables.

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We extend a cordial invitation for manufacturers to come in and examine our stock. If you are not on our mailing list, write today so you will receive information regarding special bargains.

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Our Forty Years of Soap Experience Can Help Solve Your Soap Problems

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Henry Simon, Ltd., Cheadle Heath, Stockport, England

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Moore Bros. Co., 100 Warren St., N. Y.
Rosefelt Sale Builders, 740 N. Plankinton Ave., Milwaukee, Wisc.
Velso Products Co., Ottumwa, Iowa

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American British Chemical Supplies, Inc., 180 Madison Ave., N. Y.
van Ameringen-Haebler, Inc., 315 Fourth Ave., N. Y.
Aromatic Products, Inc., 15 E. 30th St., N. Y.
Bush Aromatics, Inc., 136 Liberty St., New York
Centflor Mfg. Co., 6 Varick St., N. Y.
Ph. Chaleyer, Inc., 160 E. 56th St., N. Y.
Antoine Chiris Co., Inc., 115 E. 23rd St., N. Y.
Compagnie Duval, Division of S. B. Penick & Co., 50 Church St., N. Y.
Compagnie Parento, Croton-on-Hudson, N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
P. R. Dreyer, Inc., 119 W. 19th St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnston Ave., Brooklyn
Firmenich & Co., 135 5th Ave., N. Y.
Florasynth Labs., 1513 Olmstead Ave., Bronx, N. Y.
Rene Forster Co., 404—4th Ave., N. Y.
Benj. French, Inc., 160 5th Ave., N. Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y.
General Drug Co., 125 Barclay St., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 601 W. 26th St., N. Y.
Lautier Fils, 158 W. 18th St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Naugatuck Aromatics, 254 Fourth Ave., N. Y.
Neumann-Buslee & Wolfe, 224 W. Huron St., Chicago
New York Aromatics Co., 153 Waverly Pl., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 16th St., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
Polak & Schwartz., Inc., 667 Washington St., N. Y.
Polak's Frutal Works, 36-14 35th St., L. I. City, N. Y.
Edw. Remus & Co., 11 W. 42nd St., N. Y.
Roure-Dupont, Inc., 366 Madison Ave., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Edwin Seebach Co., 912 Broadway, N. Y.
Seeley & Co., 136 Liberty St., N. Y.
Sparhawk Co., Sparkill, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Prods. Corp., 12 E. 22nd St., N. Y.
Ungerer & Co., 161 Sixth Ave., N. Y.
Van Dyk & Co., Belleville, N. J.
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SOAP POWDER MILLS

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Consolidated Products Co., 15 Park Row, N. Y. (Used)
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PLANTS: Irvington, N. Y. • Lancaster, Pa. • Des Plaines, Ill.

Products:

Crutchers, evaporators, mixing machinery, tanks—steel or alloy, lined or unlined.

Materials:

Carbon Steel, Stainless Steel, Nickel, Aluminum, Everdure, Glass lined.

Thickness:

22 gauge to 1½".

Jacketed Tank

Anything In Steel Or Alloy Plate Construction

Three-Fold Advantage From One Source of Supply

• BROAD RESOURCES
• INFINITE VARIETY
• GIVAUDAN · QUALITY

Aided by its long years of experience in America and abroad, Givaudan is in a position to supply a wide range of aromatics, odors, perfume oils and other materials of the highest quality for use in soap manufacture.

In the field of perfume oils, Givaudan has developed many compounds especially suited for use in soaps, properly evaluating the questions of discoloration, permanency of odor, maximum coverage of fats and oils and stabilization value.

The steadily growing list of available materials plus the practical assistance offered by Givaudan's laboratory technical service and research facilities brighten the horizon for those customers who have been anxiously awaiting the opportunity to develop finer-than-ever lines of soap products.

AROMATIC CHEMICALS

Acetophenone
Amyl Cinnamic Aldehyde (Buxine*)
Amyl Salicylate
Anisaldehyde (Aubepine)
Benzophenone
Benzyl Acetate
Benzyl Salicylate
Cinnamic Alcohol
Cinnamic Aldehyde
Citral
Citronellol
Cyclamen Aldehyde
Diphenyl Oxide
Eugenol
Fatty Aldehydes
Gardenol (Styralyl Acetate)
Geraniol
Heliotropin
Hydroxy-citronellal (Laurine)
Indol
Ionones
Isobutyl Phenyl Acetate
Isoeugenol
Linalyl Acetate
Linalool
Methyl Acetophenone
Methyl Cinnamate
Methyl Coumarin
Methyl Ionones
Methyl p-Cresol
Moskene
Musk Ambrette
Musk Ketone
Musk Tibetene*
Musk Xylol
Oranger Crystals (Methyl Naphthyl Ketone)
Paracresyl Acetate
Paracresyl Phenyl Acetate
Phenyl Acetaldehyde
Phenyl Acetaldehyde Dimethyl Acetal (Viridine)
Phenyl Ethyl Acetate
Phenyl Ethyl Alcohol
Phenyl Propyl Alcohol
Rhodinol
Terpineol
Terpinyl Acetate
Terpinyl Propionate
Vanillin

And over 200 other aromatic chemicals and essential oil derivatives of unexcelled quality used in perfumery.

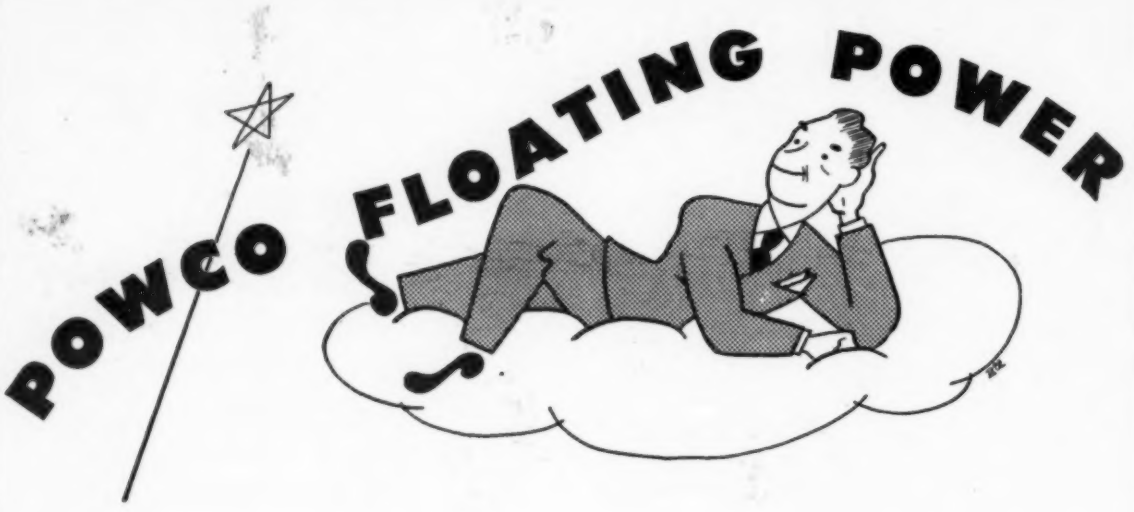
*Reg. U. S. Pat. Off.

Some products still are available only in restricted quantities, due to shortages of certain raw materials and other reconversion problems. We look forward, however, to the early return of many of these products to the list of available items.

"TRADITIONALLY...
PROGRESSIVELY...
DEPENDABLY...
GIVAUDAN"

Givaudan-Delawanna INC.

330 WEST 42nd STREET · NEW YORK 18, N. Y.



POWCO BRAND POWDERED NEUTRAL SOAP—the standardized, air-floated neutral soap is adaptable to most formulas for the manufacture of toiletries, dentifrices, and other products requiring a high quality powdered neutral soap.

A STABLE BASE

POWCO BRAND pulverized NEUTRAL SOAPS are laboratory controlled to maintain rigid uniformity of physical and chemical properties so that once you adopt a POWCO BRAND Soap, *your base does not vary*. This assures a uniform end-product . . . a product that guards against production troubles and complaints caused by changes in your product.

AIR-FLOATED FINENESS

POWCO BRAND Neutral Soaps are air-floated and manufactured from selected oils to give you better production and finer end products.

ECONOMY

Let John Powell & Co., Inc., tell you of the savings effected by POWCO Neutral Soaps. These savings are frequently measured in thousands of dollars annually. This is made possible by the Powell policy of passing on to you the benefits of large-volume production.

ENDORSEMENT BY MAJOR USERS

Cosmetics and dentifrice manufacturers *recommend* POWCO BRAND NEUTRAL SOAP, and what's more important, they reorder . . . year after year.

For better quality Soaps at a saving, use POWCO BRAND. Send for a sample today.

JOHN POWELL & CO., INC.

One Park Avenue, New York 16, N. Y.

SOAP POWDER MILLS (Contd.)

Prater Pulverizing Co., 1825 55th Ave., Chicago
Henry Simon, Ltd., Cheadle Heath, Stockport, Eng.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)

SOAP, POWDERED (White neutral powdered soap, powdered castile soap, etc., 95-99 per cent anhydrous soap. Do not confuse with Soap Powders.)

Armour Soap Wks., 1355 W. 31st St., Chicago
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Conti Products Corp., 155 Varick St., N. Y.
J. Eavenson & Sons, Camden, N. J.
J. L. Hopkins & Co., 220 Broadway, N. Y.
Insto Co., 110 Center St., Los Angeles
Kranich Soap Co., 60 Richards St., Brooklyn, N. Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
S. B. Penick & Co., 50 Church St., N. Y.
John Powell & Co., 1 Park Ave., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Ailen B. Wrisley Co., 6801 W. 56th St., Chicago

SOAP POWDERS
(Do not confuse with pure powdered soaps)

American Soap Powder Wks., Inc., 98 Van Dyk St., Brooklyn
American Soap & Washoline Co., Cohoes, N. Y.
Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Beach Soap Co., Lawrence, Mass.
Cowles Detergent Co., 7016 Euclid Ave., Cleveland
Chemical Mfg. & Dist. Co., Easton, Pa.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Du Bois Soap Co., Cincinnati
J. Eavenson & Sons, Camden, N. J.
Essential Chemicals, 3286 N. 33rd St., Milwaukee
Gaylord Chem. Co., 505 W. 5th St., Kansas City, Mo.
Hercules Powder Co., Wilmington, Del.
Hewitt Soap Co., Dayton, O.
Hockwald Chemical Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Kamen Soap Prods. Co., Woolworth Bldg., N. Y.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Los Angeles Soap Co., 617 E. First St., Los Angeles
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
Napthole, Inc., 15 E. 26th St., N. Y.
National Milling & Chem. Co., Manayunk, Phila.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Co., Cincinnati
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
S. & S. Soap Co., 324 Barretto St., Bronx, N. Y.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Stevens Soap Corp., 200 Sullivan St., Brooklyn
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Vasco Prods. Co., Elmira, N. Y.
Vliet Soap Co., 638 Monroe St., Brooklyn
Warren Soap Mfg. Co., 51 Waverly St., Cambridge Mass.
M. Werk Co., St. Bernard, Cincinnati
Western Chem. & Mfg. Co., 4032 S. Wentworth Ave., Chicago
Chas. W. Young & Co., Phila.

SOAP PRESSES (see Presses)

SOAP SHEETS (see Soap Paper)

SOAP SOLUTIONIZING DEVICE (Solutionizing and dispensing drums for soft soaps)

Clifton Chemical Co., 247 Front St., N. Y.
Davies-Young Soap Co., Dayton, O.
Rudolph Guth, Inc., 9604 Meech Ave., Cleveland, Ohio

SOAP SLABBERS (see Soap Machinery)

SOAP STOCK (Boiled down cotton oil soap stock, etc.)

(see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Brode Corp., Memphis, Tenn.
T. G. Cooper & Co., 47 N. 2nd St., Phila.
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Wm. H. Floyd & Co., Los Angeles
H. Hentz & Co., 60 Beaver St., N. Y.
Portsmouth Cotton Oil Refining Co., Portsmouth, Va.
Procter & Gamble Co., Cincinnati, O.
Southern Cotton Oil Co., 21 West St., N. Y.
A. E. Staley Mfg. Co., Decatur, Ill.
Welch, Holme & Clark, Inc., 563 Greenwich St., N. Y.

SOAP VALVES (see Soap Dispensing Systems)

SOAP, WHALE OIL (see Whale Oil Soap)

SOAP WRAPPING MACHY. (see Wrapping Mach.)

SOAPLESS DETERGENTS (see Detergents, Synthetic)

SOAPLESS SHAMPOOS (see Shampoos Soapless)

SOAPS, AUTO (see Potash Soaps)

SOAPS, FLOATING (see Floating Soaps)

SOAPS, GRANULATED (see Laundry Soaps, Granulated)

SOAPS, LIQUID (see Potash Soaps)

SOAPS, MEDICINAL, CAKE (see Medicinal Soaps, Cake)

SOAPS, MOTTLED (see Mottled Soaps)

SOAPS, PINE SCRUB (see Pine Scrub Soaps)

SOAPS, SCOURING (see Scouring Soaps)

SOAPS, SCRUBBING (see Floor Scrub Soaps)

SOAPS, SURGICAL (see Potash Soaps)

SOAPS, TEXTILE (see Textile Soaps)

SODA ASH

(see also Dealers)

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mathieson Alkali Wks., 60 E. 42nd St., N. Y.
Niagara Alkali Co., 60 E. 42nd St., N. Y.
Penn Salt Mfg. Co., Widener Bldg., Phila.
Philipp Bros., 70 Pine St., N. Y.
Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
Solvay Sales Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

SODA (Modified)

(see also Dealers)

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
E. I. du Pont de Nemours Co., Wilmington, Del.
Los Angeles Soap Co., 617 E. First St., Los Angeles
Mathieson Alkali Wks., 60 E. 42nd St., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

SODIUM ACID SULFATE (see Nitre Cake)

SODIUM ALGINATE

Algin Corp. of America, 24 State St., N. Y.
Kelco Co., 31 Nassau St., N. Y.

SODIUM ARSENITE

Chipman Chem. Co., Bound Brook, N. J.
Penn Salt Mfg. Co., Widener Bldg., Phila.
Shepherd Chem. Co., Cincinnati 12, O.
Stauffer Chem. Co., 420 Lexington Ave., N. Y.

SODIUM BENZOATE

J. T. Baker Chem. Co., Phillipsburg, N. J.
Dow Chem. Co., Midland, Mich.
Heyden Chem. Corp., 393 7th Ave., N. Y.
Hooker Electrochem. Co., Niagara Falls, N. Y.
Monsanto Chem. Co., St. Louis
Seydel Chem. Co., 225 Mercer St., Jersey City, N. J.

SODIUM BICARBONATE

(see also Dealers)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Church & Dwight Co., 70 Pine St., N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
E. I. du Pont de Nemours Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mathieson Alkali Wks., 60 E. 42nd St., N. Y.
Monsanto Chem. Co., St. Louis
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia
Pittsburgh Plate Glass Co., Columbia Chemical Div., Grant Bldg., Pittsburgh
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Solvay Sales Corp., 40 Rector St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch Holme & Clark Co., 563 Greenwich St., N. Y.
Wyandotte Chem. Corp., Wyandotte, Mich.

SODIUM BICHROMATE

(see also Dealers)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
E. I. du Pont de Nemours Co., Wilmington, Del.
General Chem. Co., 40 Rector St., N. Y.
Merck & Co., Rahway, N. J.
Mutual Chemical Co., 270 Madison Ave., N. Y.
Natural Products Refining Co., 900 Garfield Ave., Jersey City, N. J.
Prior Chem. Corp., 420 Lexington Ave., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

SODIUM BISULFATE (see Nitre Cake)

H. H. ROSENTHAL CO.

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Soda Fluoride
•
Caustic Soda
•
Naphthalene
•
Pyrethrum
•
Arsenic
•
Talc

SODIUM CARBONATE (see Soda Ash)

SODIUM CHLORATE

E. I. du Pont de Nemours & Co., Wilmington
Merck & Co., Rahway, N. J.
Oldbury Electrochem. Co., 22 E. 40th St., N. Y.
Penn Salt Mfg. Co., Widener Bldg., Phila.
Western Electrochem. Co., Los Angeles 23, Calif.

SODIUM CHLORIDE (see Salt, Common Salt)

SODIUM CYANIDE

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours Co., Wilmington, Del.
General Chem. Co., 40 Rector St., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

SODIUM FLUORIDE (see Fluorides)

SODIUM FLUOSILICATE (see Sodium Silicofluoride)

SODIUM HYDROSULFITE

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours Co., Wilmington, Del.
General Chem. Co., 40 Rector St., N. Y.
General Dyestuffs Corp., 435 Hudson St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Merck & Co., Rahway, N. J.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Royce Chemical Co., Carlton Hill, N. J.

SODIUM HYPOCHLORITE (see Laundry Bleach)

SODIUM HYPOSULFITE (Thiosulfate)

E. I. du Pont de Nemours Co., Wilmington, Del.
General Chem. Co., 40 Rector St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
A. R. Maas Chem. Co., South Gate, Calif.
Mallinckrodt Chem. Wks., St. Louis
Merck & Co., Rahway, N. J.
Rohm & Haas, 222 W. Washington Sq., Phila.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.

SODIUM LAURYL SULFATE (see Sulfonated Fatty Alcohols)

Blockson Chemical Co., Joliet, Ill.
Calgon, Inc., 300 Ross St., Pittsburgh
E. I. du Pont de Nemours Co., Wilmington, Del.
Monsanto Chem. Co., St. Louis
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Victor Chem. Wks., 141 W. Jackson Blvd., Chicago

SODIUM METASILICATE

Cowles Detergent Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Standard Silicate Div., 535 Smithfield St., Pittsburgh
E. I. du Pont de Nemours Co., Wilmington, Del.
Emeryville Chem. Co., 405 Montgomery St., San Francisco
MacKenzie Laboratories, Front & Yarnell Sts., Chester, Pa.
Philadelphia Quartz Co., 125 S. 3rd St., Phila., Pa.

SODIUM METAPHOSPHATE

Blockson Chem. Co., Joliet, Ill.
General Chem. Co., 40 Rector St., N. Y.
MacKenzie Labs., Front & Yarnell Sts., Chester, Pa.
Mechling Bros. Chemical Co., Camden, N. J.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

SODIUM ORTHOSILICATE

Cowles Detergent Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Standard Silicate Div., 535 Smithfield St., Pittsburgh
Innis, Speiden & Co., 117 Liberty St., N. Y.
Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Phila.

SODIUM PERBORATE

(*see also Dealers*)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Croton Chem. Corp., 114 Liberty St., N. Y.
E. I. du Pont de Nemours Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Merck & Co., Rahway, N. J.

SODIUM PYROPHOSPHATE (see Tetra Sodium Pyrophosphate)

SODIUM SESQUICARBONATE

Diamond Alkali Co., 535 Smithfield St., Pittsburgh
Mathieson Alkali Wks., 60 E. 42nd St., N. Y.
Mechling Bros. Chemical Co., Camden, N. J.
Solvay Sales Corp., 40 Rector St., N. Y.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

SODIUM SESQUISILICATE

Cowles Detergent Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Standard Silicate Div., 535 Smithfield St., Pittsburgh
Innis, Speiden & Co., 117 Liberty St., N. Y.
MacKenzie Laboratories, Front & Yarnall Sts., Chester, Pa.
Philadelphia Quartz Co., 125 So. 3rd St., Phila.
Jos. Turner & Co., Ridgefield, N. J.

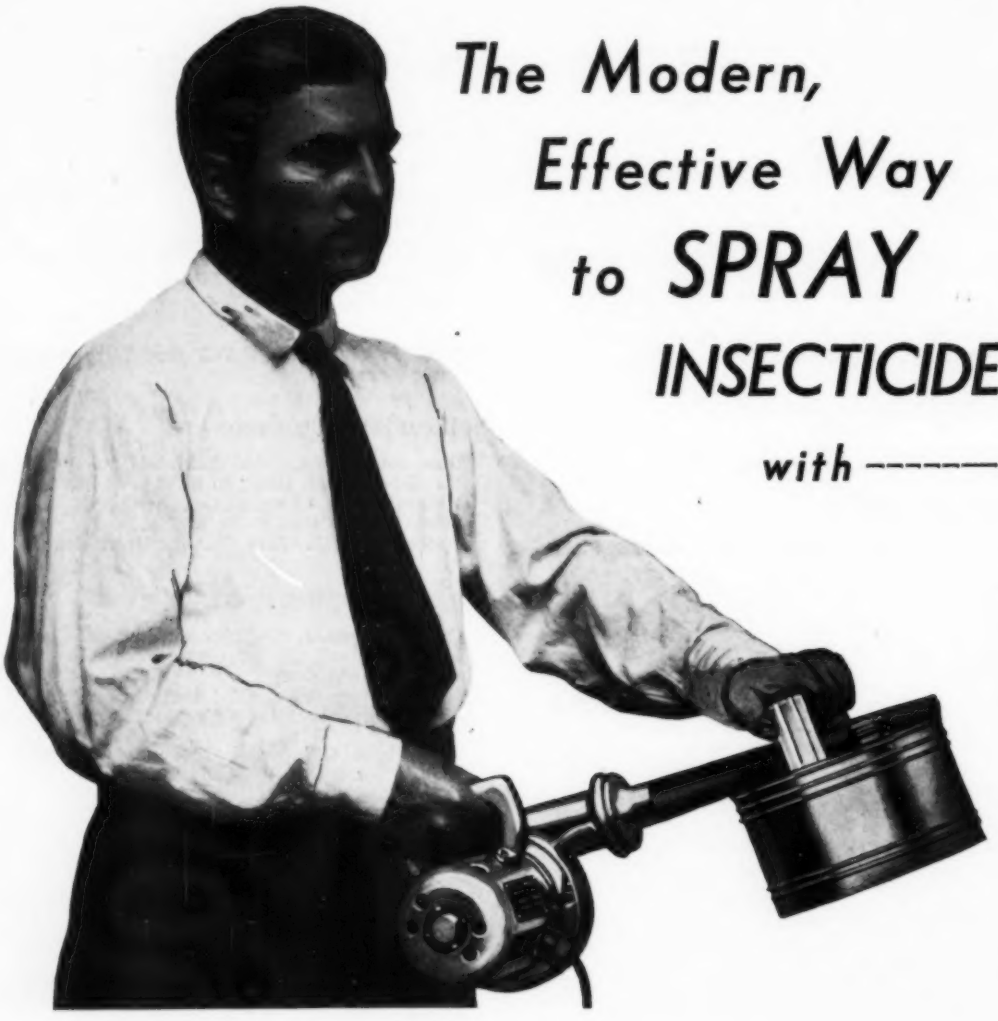
SODIUM SILICATE

(*see also Dealers*)

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., Standard Silicate Div., 535 Smithfield St., Pittsburgh
E. I. du Pont de Nemours Co., Wilmington, Del.
Emeryville Chem. Co., 405 Montgomery St., San Francisco
General Chem. Co., 40 Rector St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mechling Bros. Chem. Co., Camden, N. J.
Philadelphia Quartz Co., 125 So. 3rd St., Phila.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

SODIUM SILICOFLUORIDE

American British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
American Fluoride Corp., 151 W. 19th St., N. Y.
Armour Fertilizer Wks., Atlanta, Ga.
Blockson Chemical Co., Joliet, Ill.
Concord Chem. Co., Independence Sq., Phila.
Croton Chem. Corp., 114 Liberty St., N. Y.
E. I. du Pont de Nemours Co., Wilmington, Del.
General Chem. Co., 40 Rector St., N. Y.
Charles Hardy, Inc., 415 Lexington Ave., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N. Y.
W. B. Lawson, Inc., Union Commerce Bldg., Cleveland
Merck & Co., Rahway, N. J.
Penn. Salt Mfg. Co., Widener Bldg., Phila.
Sergeant Chem. Co., 350 Fifth Ave., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Tennessee Corp., Atlanta, Ga.
Jos. Turner & Co., Ridgefield, N. J.



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SOFT SOAPS (See Potash Soaps)

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American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N. Y.
Apex Chemical Co., 225 W. 34th St., N. Y.
Arabol Mfg. Co., 110 E. 42nd St., N. Y.
Atlantic Refining Co, 260 S. Broad St., Phila.
Emery Industries, 4300 Carew Tower, Cincinnati
Napthole, Inc., 15 E. 26th St., N. Y.
Richards Sales Corp., Warren and Morris Sts., Jersey City, N. J.
Sinclair Refining Co., East Chicago, Ind.
L. Sonneborn Sons, Inc., 88 Lexington Ave., N. Y.
Jacques Wolf & Co., Passaic, N. J.

SOLVENT NAPHTHA

Anderson-Prichard Oil Corp., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Phila.
Barrett Co., 40 Rector St., N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Commerce Petroleum Co., 2923 Lock St., Chicago
Deep Rock Oil Corp., 155 N. Clark St., Chicago
Koppers Co., Koppers Bldg., Pittsburgh
Neville Co., Pittsburgh
Pennsylvania Refining Co., Butler, Pa.
Pittsburgh Coal Carbonization Co., Oliver Bldg., Pittsburgh
Reilly Tar & Chemical Corp., Indianapolis
Shell Oil Co., 50 W. 50th St,. N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Sinclair Refining Co., East Chicago, Ind.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co., (Ind.), 910 S. Michigan Ave., Chicago
Woburn Chemical Corp., Harrison, N. J.

SOLVENTS, ORGANIC (Chlorinated, etc.)

Barrett Co., 40 Rector St., N. Y.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 17 E. 42nd St., N. Y.
Crosby Chemicals, Inc., Picayune, Miss.
Diamond Alkali Co., 535 Smithfield St., Pittsburgh
Delta Chemical Co., 2101 Washington Blvd., Baltimore
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours Co., Wilmington, Del.
Hercules Powder Co., Wilmington
Hooker Electrochemical Co., Niagara Falls, N. Y.
Kessler Chem. Corp., Philadelphia
Koppers Co., Koppers Bldg., Pittsburgh
Neville Co., Pittsburgh
Newport Industries, 230 Park Ave., N. Y.
Pennsylvania Refining Co., Butler, Pa.
Pittsburgh Coal Carbonization Co., Oliver Bldg., Pittsburgh
Reilly Tar & Chemical Corp., Indianapolis
Sharples Solvents Corp., Phila.
Shell Union Oil Corp., 100 Bush St., San Francisco
Skelly Oil Co., Kansas City
Standard Alcohol Co., 26 Broadway, N. Y.
U. S. Industrial Chem. Co., 60 E. 42nd St., N. Y.
Velsicol Corp., 120 E. Pearson St., Chicago
Westvaco Chlorine Prods. Co., 405 Lexington Ave., N. Y.

SOLVENTS, PETROLEUM

American Mineral Spirits Co., 230 N. Michigan Ave., Chicago
Anderson-Prichard Oil Co., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Carbide & Carbon Chem. Corp., 30 E. 42nd St., N. Y.
Commerce Petroleum Co., 2923 Lock St., Chicago
Deep Rock Oil Corp., 155 N. Clark St., Chicago
E. I. du Pont de Nemours Co., Wilmington, Del.
Pennsylvania Refining Co., Butler, Pa.
Shell Oil Co., 50 W. 50th St,. N. Y.
Sinclair Refining Co., 630 5th Ave., N. Y.
Skelly Oil Corp., 605 W. 47th St., Kansas City, Mo.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co., (Ind.), 910 S. Michigan Ave., Chicago
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Velsicol Corp., 120 E. Pearson St., Chicago

SOYA BEAN OIL

(see also Brokers and Dealers)

Balfour, Guthrie Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 120 Wall St., N. Y.
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
Eastern Industries, Inc., Ridgefield, N. J.
William O. Goodrich Co., Milwaukee, Wis.
W. R. Grace & Co., 7 Hanover Sq., N. Y.
Spencer Kellogg & Son, Buffalo, N. Y.
Pacific Vegetable Oil Co., 62 Townsend St., San Francisco
Procter & Gamble Co., Cincinnati
Purina Mills, St. Louis
Werner G. Smith Co., 2191 W. 110th St., Cleveland
A. E. Staley Mfg. Co., Decatur, Ill.
A. E. Starkie Co., 5461 W. Division St., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

SPERMACETI

E. A. Bromund Co., 258 Broadway, N. Y.
A. C. Drury & Co., 210 E. Water St., Chicago
Innis, Speiden & Co., 117 Liberty St., N. Y.
Lenape Trading Co., 233 Broadway, N. Y.
George H. Lincks, 155 John St., N. Y.
Neumann-Buslee & Wolfe, 224 W. Huron St., Chicago
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Smith & Nichols, 121 Maiden Lane, N. Y.
Strohmeyer & Arpe Co., 139 Franklin St., N. Y.
Will & Baumer Candle Co., Syracuse, N. Y.

SPONGES (Natural and Synthetic)

Addison Sponge Co., 118 E. Court St., Cincinnati
Allied Industrial Prods. Co., 620 N. Michigan, Chicago
American Sponge & Chamois Co., 47 Ann St., N. Y.
American Standard Mfg. Co., 2509 S. Green St., Chicago
Atlas Sponge Co., 291 Church St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington
Florida Sponge & Chamois Co., 42 Cliff St., N. Y.
Great Eastern Sponge & Chamois Co., 833 N. Catt. Pk. Ave., Baltimore
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Robinson Sponge Co., 1805 Atlantic Ave., Brooklyn

SPOTTING FLUIDS (see Cleaning Fluids)

SPRAYERS, BOTTLE

Arnold-Copeland Co., 22 Elkins St., So. Boston, Mass.
Celluplastec Corp., 50 Avenue L, Newark, N. J.
Federal Tool Corp., 412 Leavitt St., Chicago
Wilco Co., 7016 McKinley Ave., Los Angeles

SPRAYERS, COMPRESSED AIR

Acmeline Mfg. Co., Traverse City, Mich.
Binks Mfg. Co., 3114 Carroll Ave., Chicago
E. C. Brown Co., Rochester, N. Y.
R. E. Chapin Mfg. Works, Batavia, N. Y.
DeVilbiss Co., Toledo, O.
Dobbins Mfg. Co., Elkhart, Ind.
Electric Sprayit Co., 1415 Illinois Ave., Sheboygan, Wis.
Fumeral Co., Racine, Wis.
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Wofstrand Co., Silver Spring, Md.
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Lowell Mfg. Co., North Pier Terminal, Chicago
Miller-Simons, Inc., 2900 S. 61st Court, Chicago
Mystic Products Co., 625 15th Ave., S., Minneapolis
Simmon Paint Spray Brush Co., Dayton, O.
Sprayer Corp. of America, 1810 W. Winona Ave., Chicago 40

DEMAND Dobbins DEPENDABILITY and Your Spray Problems are Solved

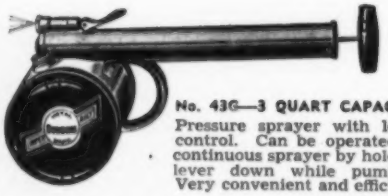
No. 170—SOAP SPRAYER

A high pressure portable sprayer for the economical application of scrubbing soap or floor cleaning compounds to large floor surfaces.

No. S-122-G—SOAP SPRAYER

A convenient soap sprayer for janitor service. Hose, valves and all gaskets are made from materials that will withstand the caustic action of soap and cleaners.

This Patented Spray Cap develops a wide fan shaped, flat spray that thoroughly covers a surface three feet in width. Enables the operator to prevent spray on walls, baseboards and furniture. Furnished with the No. S-122-G Sprayer, shown above, at right.



No. 43G—3 QUART CAPACITY

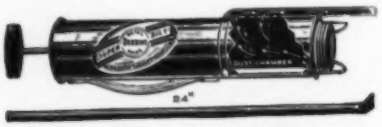
Pressure sprayer with lever control. Can be operated as continuous sprayer by holding lever down while pumping. Very convenient and efficient.

HAND SPRAYERS AND ATOMIZERS

A complete line of sprayers and atomizers in all popular sizes; some with the Dobbins patented two-way spray nozzle.

No. 10—FLOOR OIL SPRAYER

With air regulator and volume control. 1½ gal. capacity.



No. 133—NEW TYPE DUSTER

The most efficient hand operated duster ever made. New design assures uniform and effective discharge. Capacity 1 pound.

HIGH PRESSURE CHEMICAL SPRAYER WITH CONTROLLED ATOMIZATION

The discharge has a wide range of adjustments, from a forceful, penetrating spray, to fine floating fog, with in-between variations.

★ ★ ★

Dobbins Superbilt SPRAYERS · DUSTERS

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DOBBINS MANUFACTURING CO.

GENERAL SALES OFFICE
ELKHART, INDIANA

FACTORIES AT
NORTH ST. PAUL, MINN., ELKHART, IND.

SPRAYERS, COMPRESSED AIR (Contd.)

Universal Metal Prods. Co., Lowell, Mich.
Volume Sprayer Mfg. Co., Tulsa, Okla.

SPRAYERS, DDT

Fumeral Co., Racine, Wis.

SPRAYERS, ELECTRIC

Acmeline Mfg. Co., Traverse City, Mich.
Binks Mfg. Co., 3114 Carroll Ave., Chicago
DuLa Mfg. Co., 351 Atlantic Ave., Brooklyn, N. Y.
Electric Sprayit Co., 1415 Illinois Ave., Sheboygan, Wis.
Fumeral Co., Racine, Wis.
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Lowell Mfg. Co., North Pier Terminal, Chicago
Metal Specialties Mfg. Co., 3208 Carroll Ave., Chicago
Sprayer Corp. of America, 1810 W. Winona Ave., Chicago 40

SPRAYERS, ELECTRIC, STEAM

DuLa Mfg. Co., 351 Atlantic Ave., Brooklyn
Fumeral Co., Racine, Wis.
Kaz Mfg. Co., 611 W. 43rd St., N. Y.
Lowell Mfg. Co., North Pier Terminal, Chicago
Mystic Products Co., 625 15th Ave., S., Minneapolis

SPRAYERS, HAND

Acmeline Mfg. Co., Traverse City, Mich.
R. E. Chapin Mfg. Works, Batavia, N. Y.
Dobbins Mfg. Co., Elkhart, Ind.
Electric Sprayit Co., 1415 Illinois Ave., Sheboygan, Wis.
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Jaeckh Mfg. Co., Cincinnati
Lowell Mfg. Co., North Pier Terminal, Chicago
D. B. Smith Co., Utica, N. Y.
Standard Container, Inc., Rockaway, N. J.
Universal Metal Prods. Co., Lowell, Mich.
Volume Sprayer Mfg. Co., Tulsa, Okla.
Wilco Co., 6800 McKinley Ave., Los Angeles

SPRAYERS, MOUTH

Acmeline Mfg. Co., Traverse City, Mich.
Arnold-Copeland Co., 22 Elkins St., So. Boston, Mass.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Lowell Mfg. Co., North Pier Terminal, Chicago
D. B. Smith & Co., Utica, N. Y.
Standard Container, Inc., Rockaway, N. J.

SPRAYERS, SODIUM HYPOCHLORITE

Fumeral Co., Racine, Wisc.

SPREADERS for INSECTICIDE (see Clays)

SQUEEGEES

Ardmore Mfg. Co., 5082 N. Lincoln Ave., Chicago
W. J. Dennis & Co., 1732 N. Kolmar, Chicago
A F. Dormeyer Mfg. Co., 4316 N. Kilpatk. St., Chicago
Aug. Hanke & Son Co., 6326 W. Guyer Ave., Chicago
Illinois Duster & Brush Co., 1944 Webster Ave., Chicago
J. Racenstein & Co., 621 Broadway, N. Y.
Reliance Hardward & Mfg. Co., 1438 N. Keating St., Chicago

SQUILLS (Rodent Poison)

Associated Chemists, Inc., 1906 N. Halsted Ave., Chicago
J. L. Hopkins & Co., 220 Broadway, N. Y.
McLaughlin Gormley King Co., 1715 5th St., S. E., Minneapolis, Minn.
S. B. Penick & Co., 50 Church St., N. Y.
R. J. Prentiss & Co., 110 William St., N. Y.
Ratin Laboratory, 116 Broad St., N. Y.
York Chem. Co., 424 W. 18th St., N Y

STATIONARY FUMERAL MODEL B

Operated by factory steam or air pressure. — Four Fumeral pressure nozzles which account for Fumeral's well-known efficiency and economy. — Removable liquid tubes, easy to clean. — Solid bronze casting of simple construction. — High-grade half-inch needle valve. — No pressure is applied to the standard sanitary glass jar of half-gallon capacity.

Sold since 1932 from coast to coast by leading distributors of insecticides and exterminators — your guaranty of efficiency, economy, dependability and quality. Easy to install and operate.

FUMERAL COMPANY
RACINE, WIS.
Manufacturers of Fumeral Stationary and Portable Diffusers

STANNOUS CHLORIDE (see Tin Crystals)

STARCH

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Arabol Mfg. Co., 110 E. 42nd St., N. Y.
T. G. Cooper & Co., 47 N. 2nd St., Phila
Innis, Speiden & Co., 117 Liberty St., N. Y.
Keever Starch Co., Columbus, O.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
National Starch Prods., 270 Madison Ave., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
L. A. Salomon & Bro., 216 Pearl St.
A. E. Staley Mfg. Co., Decatur, Ill.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

STEARATES (Zinc, Calcium, Magnesium, etc)

(see also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Cuprinol Inc., 7 Water St., Boston
E. I. du Pont de Nemours Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hooker Electrochemical Co., Niagara Falls, N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chem. Wks., St. Louis
Merck & Co., Rahway, N. J.
National Oil Products Co., Harrison, N. J.
M. W. Parsons, Inc., 59 Beekman St., N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Synthetic Products Co.,
London Rd. & Euclid Ave., Cleveland
Jos. Turner & Co., Ridgefield, N. J.
Chas. A. Wagner Co., 813 Callowhill St., Phila.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.

STEARIC ACID

(see also Brokers and Dealers)

American British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
Celina Stearic Acid Co., Celina, Ohio
Century Stearic Acid Candle Wks., 41 E. 42nd St., N. Y.
Chemical Sales Corp., Pittsburgh, 19
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
A. Gross & Co., 295 Madison Ave., N. Y.
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Harkness & Cowing, Ivorydale, Cincinnati
Innis, Speiden & Co., 17 Liberty St., N. Y.
National Oil Products Co., Harrison, N. J.
Orbis Products Corp., 215 Pearl St., N. Y.
Procter & Gamble Co., Cincinnati
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
A. E. Starkie, 5461 W. Division St., Chicago
Theobald Industries, Kearny, N. J.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
M. Werk Co., St. Bernard, Cincinnati
Will & Baumer Candle Co., Syracuse, N. Y.
Wilson-Martin Co., Snyder Ave. & Swanson St., Phila.
Witco Chemical Co., 295 Madison Ave., N. Y.

STEARINE

(see also Brokers and Dealers)

Celina Stearic Acid Co., Celina, Ohio
Darling & Co., 4201 S. Ashland Ave., Chicago
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
Independent Mfg. Co., Bridesburg P. O., Phila.
Morris Co., Union Stock Yards, Chicago
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
Procter & Gamble Co., Cincinnati
Werner G. Smith Co., 2191 W. 110th St., Cleveland
A. E. Starkie, 5461 W. Division St., Chicago
Louis Stern Sons., Inc., Produce Exch., N. Y.
Swift & Co., Union Stock Yards., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Wilson & Co., 4100 Ashland Ave., Chicago

STEARINE PITCH

Allied Asphalt & Mineral Corp., 217 Broadway, N. Y.
Armour Chem. Div., Armour & Co., 1355 W. 31st St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
A. Gross & Co., 295 Madison Ave., N. Y.
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Procter & Gamble Co., Ivorydale, O.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
A. E. Starkie, 5461 W. Division St., Chicago
Wilson & Co., 4100 Ashland Ave., Chicago

STEEL DRUMS (see Drums, Steel)

STEEL PAILS (see Pails, Steel)

STEEL, NICKEL CLAD

Illinois Steel Co., 208 S. La Salle St., Chicago
International Nickel Co., 67 Wall St., N. Y.
Lukens Steel Co., Coatesville, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, O.

STEEL TANKS (see Tanks, Steel)

STEEL WOOL

American Steel Wool Mfg. Co., 42-24 Orchard St., L. I. City, N. Y.
International Steel Wool Co., Springfield, Ohio
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Williams Co., London, Ohio

STODDARD'S SOLVENT (see Solvents, Petroleum)

STORAGE TANKS (see Tanks, Storage, etc.)

SUDSING EQUIPMENT (see Soap Solutionizing Device)

SULFATED FATTY ALCOHOLS (and other Non-Soap Organic Detergents, and Derivatives)

Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
E. F. Drew & Co., Boonton, N. J.
E. I. du Pont de Nemours Co., Wilmington, Del.
General Dyestuffs Corp., 435 Hudson St., N. Y.
Hummel Chemical Co., 90 West St., N. Y.
N. I. Malmstrom & Co., 147 Lombardy St., Brooklyn
Michel Export Co., 90 Broad St., N. Y.
Monsanto Chem. Co., St. Louis
National Aniline & Chem. Div., 40 Rector St., N. Y.
National Oil Products Co., Harrison, N. J.
Procter & Gamble Co., Cincinnati
Richards Sales Corp., Jersey City, N. J.
Sandoz Chemical Works, 61 Van Dam St., N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Jacques Wolfe & Co., Passaic, N. J.

SULFONATED OILS

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Atlantic Refining Co., 260 S. Broad St., Phila.

SULFONATED OILS (Contd.)

Colloids, Inc., 395 Frelinghuysen Ave., Newark, N. J.
E. F. Drew & Co., Wecoline Div., Boonton, N. J.
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, 4300 Carew Tower, Cincinnati
General Dyestuff Corp., 435 Hudson St., N. Y.
Hercules Powder Co., Wilmington
Kali Mfg. Co., 1408 N. Front St., Philadelphia
National Oil Products Co., Harrison, N. J.
Rare Chemicals, Inc., 1st and Essex Sts., Harrison, N. J.
Richards Sales Corp., Jersey City, N. J.
Sandoz Chemical Works, 61 Van Dam St., N. Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
A. E. Starkie, 5461 W. Division St., Chicago
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Warwick Chem. Co., West Warwick, R. I.
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.
Jacques Wolfe & Co., Passaic, N. J.

SULFOXYLATES (Soap Bleaches)

Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Jacques Wolfe & Co., Passaic, N. J.

SULFUR CANDLES

Koppers Co., White Tar Div., Kearny, N. J.
Reliable Chemical Co., Passaic, N. J.

SUPERFATTING AGENTS (for Toilet Soaps)

N. I. Malmstrom Co., 147 Lombardy St., Bklyn.
National Oil Products Co., Harrison, N. J.
Pfaltz & Bauer, 350 5th Ave., N. Y.
Pylam Products Co., 799 Greenwich St., N. Y.
Richards Sales Corp., Jersey City, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N. Y.

SUPERHEATERS

Eureka Machine Co., 2601 Vega Ave., Cleveland
Ernest Scott & Co., Fall River, Mass.
The Superheater Co., 60 E. 42nd St., N. Y.

SURGICAL SOAPS (see Potash Soaps)

SWEEPING COMPOUNDS

A-1 Floor Sweep Co., 1923 N. Haskell, Dallas
American Excelsior Corp., 1000 N. Halstead St., Chicago
American Soap & Washoline Co., Cohoes, N. Y.
Banner Chemical Prod. Corp., 60 Elm St., Newark, N. J.
Baums Castorine Co., 200 Matthews St., Rome, N. Y.
Philip Carey Mfg. Co., Lockland, Cincinnati
Champion Mfg. Co., 322 S. Erie St., Indianapolis, Ind.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Filtrol Corp., 634 S. Spring St., Los Angeles
Fitch Dustdown Co., 801 S. Howard St., Baltimore
Fuld Bros., 702 S. Wolfe St., Baltimore
Higley Chemical Co., Dubuque, Iowa
Hockwald Chem. Co., 135 Mississippi St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
House of Milo, 628 N. 9th St., Birmingham
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hysan Products Co., 932 W. 38th Place, Chicago
Kamen Soap Prods. Co., Woolworth Bldg., N. Y.
Frank Miller & Sons, 2240 W. 58th St., Chicago
Natl. Sawdust Co., 69 N. 6th St., Bklyn.
North Coast Soap & Chem. Wks., Seattle, Wash.
Pacific Chem. Co., 1421 N. Main St., Los Angeles
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 5238 N. Second St., St. Louis
Pioneer Mfg. Co., Cleveland, O.
Port Huron Detergent Co., Port Huron, Mich.
Puritan Chem. Co., 209 Peters St., N. W. Atlanta
Riverside Chem. Co., N. Tonawanda, N. Y.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanco Prods. Inc., Greenville, O.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Jno. C. F. Snyder & Sons, Inc., 2304 N. 28th St., Phila.
Solshine Mfg. Co., 412—2nd St., Fall River, Mass.
Standard Chem. Co., 213 Jackson St., Houston, Tex.
Sweeping Compound Mnfrs. Co., 421 Broome St., N. Y.
Tesco Chem. Co., P. O. Box 4748, Atlanta
Texol Chem. Wks., 3 Winter St., Worcester, Mass.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

SYNTHETIC DETERGENTS (see Detergents, Synthetic)

SYNTHETIC INSECTICIDE CONCENTRATES (see Insecticide Concentrates, Synthetic)

SYNTHETIC WAXES (see Waxes, Synthetic)

TALC

American Cyanamid & Chem. Corp., 30 Rockefeller, Plaza, N. Y.
Binney & Smith Co., 41 E. 42nd St., N. Y.
Blue Ridge Talc Co., Henry, Va.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
E. I. du Pont de Nemours Co., Wilmington, Del.
Eastern Magnesia Talc Co., Burlington, Vt.
Enco Chem. Corp., 441 Lexington Ave., N. Y.
Fezandie & Sperrle, 205 Fulton St., N. Y.
Georgia Talc Co., Asheville, N. C.
Goris & Co., 8124 S. Hoyne Ave., Chicago
K. F. Griffiths & Co., 110 E. 42nd St., N. Y.
Hammill & Gillespie, 225 Broadway, N. Y.
Hercules Powder Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N. Y.
Los Angeles Talc Co., Los Angeles, Cal.
Natura Minerals Co., 108 W. 6th St., Los Angeles
Orbis Products Corp., 215 Pearl St., N. Y.
Pacific Coast Talc Co., Los Angeles, Cal.
R. F. Revson Co., 144 W. 18th St., N. Y.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Joliet, Ill.
A. E. Starkie, 5461 W. Division St., Chicago
Tamms Silica Co., 228 N. La Salle St., Chicago
Union Talc Co., 147 Nassau St., N. Y.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 295 Madison Ave., N. Y.
Wyodak Chemical Co., 4600 E. 71st St., Cleveland

TALL OIL (TALLOL)

Champion Paper & Fibre Co., Canton, North Carolina
Industrial Chem. Sales Div., West Va. Pulp & Paper Co. 230 Park Ave., N. Y.
Chas. L. Read & Co., 120 Greenwich St., N. Y.
Saltcake Sales Corp., 230 Park Ave., N. Y.
Union Bag & Paper Corp., 233 Bdway, New York
Welch, Holme & Clark Co., 563 Greenwich St., N. Y.

TALLOW

(see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Belleville Rendering Co., Belleville, Ill.
Consolidated Rendering Co., 178 Atlantic Ave., Boston
Cudahy Packing Co., 111 W. Monroe St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Independent Mfg. Co., Bridesburg P. O., Phila.
Long Island Soap Co., 29 Bridgewater St., Brooklyn
Louisville Butchers' Hide & Tallow Co., Louisville, Ky.
Newman Tallow & Soap Mach. Co., 1051 W. 35th, Chicago
Willibald Schaefer Co., Foot of Bremen Ave., St. Louis
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Swift & Co., Union Stock Yards, Chicago

IT PAYS TO CHECK UP ON WHAT *QUADRAFOS* CAN DO FOR YOUR COMPOUNDS...

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- ☐ For Dairy and Food Plant Sanitation
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- ☐ For Metal Cleaners
- ☐ For Household Cleaners

For example: QUADRAFOS* in your soap compounds will protect soap against hard water ... greatly increase foaming ... step up emulsifying power ... reduce redeposition of soil.

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QUADRAFOS Means Extra Profits

This hard-working polyphosphate gives compounds the extra performance that means extra sales for you. It is at once a detergent, deflocculant, dispersant, water conditioner, and sequestering agent for calcium, magnesium and other metallic ions.

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QUADRAFOS GRANULAR is a white, free-flowing powder. It is rapidly soluble and sized for convenient compounding with many detergent alkalies ... 95% passes a 14-mesh screen. QUADRAFOS 30—a white, free-flowing powder, is very rapidly soluble and is preferred for finely powdered products ... 95% passes a 30-mesh screen.

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**U. S. Reg. Trade Mark for Sodium Tetraphosphate made by Rumford*

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TALLOW (Contd.)

Theobald Industries, Kearny, N. J.
Toledo Tallow Co., Toledo, Ohio
Waltham Tallow Co., Waltham, Mass.
Wayne Soap Co., Detroit
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N. Y.
Wilson & Co., Union Stock Yards, Chicago
Wilson-Martin Co., Swanson St., Phila.

TALLOW CHIP SOAP (see Chip Soaps)

TALLOW OIL

(see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Consolidated Rendering Co., 40 N. Market St., Boston
Cudahy Packing Co., 111 W. Monroe St., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Independent Mfg. Co., Bridesburg, P. O., Phila
Swift & Co., Union Stock Yards, Chicago
Toledo Tallow Co., Toledo, Ohio
Waltham Tallow Co., Waltham, Mass.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N. Y.
West Coast Fert. & Rendering Co., Los Angeles
Wilson & Co., Union Stock Yards, Chicago

TANKS (Glass Lined Mixing and Storage)

Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Consolidated Products Co., 15 Park Row, N. Y. (Used)
Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Ertel Engineering Co., Kingston, N. Y.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
Littleford Bros., 453 E. Pearl St., Cincinnati
Metal Glass Products Corp., Belding, Mich.
Mixing Equipment Co., 1067 Garson Ave., Rochester
Newman Tallow & Soap Mach. Co., 1051 W. 35th, Chicago
Pfaudler Co., 89 East Ave., Rochester, N. Y.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Scientific Filter Co., 1 Franklin Sq., N. Y.
Sprout, Waldron & Co., Muncy, Pa.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)

TANKS (for Liquid Soap Dispensing Systems)

Ampion Corp., 4-88—Forty-seventh Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Bobrick Mfg. Corp., 2619 Santa Fe Ave., Los Angeles.
Brighton Copper Works, 2163 Western Ave., Cincinnati
Clifton Chemical Co., 62 William St., N. Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
R. M. Hollingshead Corp., Camden, N. J.
Imperial Brass Mfg Co., 1200 W. Harrison St., Chicago
Palmer Products, Inc., Waukesha, Wisc.
Rochester Germicide Co., Rochester, N. Y.
John Trageser Steam Copper Works, Grand Ave., Maspeth, L. I., N. Y.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
West Disinfecting Co., Long Island City, N. Y.

TANKS (Steel, Mixing, Storage, etc.)

Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
Alsop Engineering Corp., 103 Green St., Milldale, Conn.
Atlas Steel Construction Co., Irvington, N. Y.
S. F. Bowser & Co., Ft. Wayne, Ind.
Consolidated Prods. Co., 15 Park Row, N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Filter Paper Co., 57 E. 24th St., Chicago
First Machy. Corp., 157 Hudson St., N. Y. (Used)
William Garrigue & Co., 9 S. Clinton St., Chicago
General American Transportation Corp., 135 S. LaSalle St., Chicago
Graver Tank & Mfg. Corp., 332 S. Michigan, Chicago
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Illinois Steel Corp., 208 S. LaSalle St., Chicago
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
J. M. Lehmann Co., Lyndhurst, N. J.
Littleford Bros., 453 E. Pearl St., Cincinnati
Lukens Steel Corp., Coatesville, Pa.
Mixing Equipment Co., 1067 Garson Ave., Rochester
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Patterson Foundry & Machine Co., East Liverpool, Ohio
Patterson-Kelley Co., East Stroudsburg, Pa.
Petroleum Iron Works, Sharon, Pa.
Pfaudler Co., Rochester, N. Y.
Pioneer Tank & Boiler Co., Tulsa, Okla.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy Co., York, Pa.
Sprout, Waldron & Co., Muncy, Pa.
Stein Equipment Corp., 426 Broome St., N. Y. (Used)
Struthers-Wells Corp., Warren, Pa.
John Trageser Steam Copper Works, Grand St., Maspeth, L. I., N. Y.

TANKS (Wooden, Mixing, Storage, etc.)

Atlantic Tank & Barrel Co., North Bergen, N. J.
J. H. Day Co., 1144 Harrison Ave., Cincinnati
General Tank Corp., 30 Church St., N. Y.
Hauser-Stander Tank Co., Ivorydale, Cinn.
Kalamazoo Tank & Silo Co., Kalamazoo, Mich.
New England Tank & Tower Co., Everett, Mass.
Pacific Tank & Pipe Co., 334 Market St., San Francisco
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read Machy. Co., York, Pa.
Sprout, Waldron & Co., Muncy, Pa.
Tippett & Wood, Phillipsburg, N. J.

TAR ACID OIL (see Coal Tar Raw Materials)

TAR ACIDS, High Boiling

American-British Chem. Supplies, Inc., 180 Madison Ave., N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Baird & McGuire, Inc., 1200 Switzer Ave., St. Louis
Barrett Co., 40 Rector St., N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
E. I. du Pont de Nemours Co., Wilmington, Del.
James Huggins & Son, 239 Medford St., Malden, Mass.
Wm. E. Jordan & Bro., 2590 Atlantic Ave., Brooklyn
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Monsanto Chemical Co., St. Louis
Neville Co., Pittsburgh
Reilly Tar & Chem. Co., Indianapolis
Shell Oil Co., 50 W. 50th St., N. Y.

TERPENYL ACETATE (see Aromatic Chemicals)

TERPINEOL

(see also Essential Oils)

van Ameringen-Haebler, Inc., 315 Fourth Ave., N. Y.
Aromatic Products, Inc., 15 E. 30th St., N. Y.
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Dodge & Olcott Inc., 180 Varick St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Firmenich & Co., 135—5th Ave., N. Y.
General Drug Co., 125 Barclay St., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Hercules Powder Co., Wilmington
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Ungerer & Co., 161 Sixth Ave., N. Y.

TETRACHLORETHYLENE (see Solvents, Organic)

TETRASODIUM PYROPHOSPHATE

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N. Y.
Blockson Chemical Co., Joliet, Ill.

TETRASODIUM PYROPHOSPHATE (Contd.)

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A. R. Maas Chem. Co., South Gate, Calif.
Monsanto Chemical Co., St. Louis
Philipp Bros., 70 Pine St., N. Y.
Victor Chem. Wks., 141 W. Jackson Blvd., Chicago
Westvaco Chlorine Prods. Co., 405 Lexington Ave., N. Y.

TEXTILE SOAPS

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Chemical Mfg. & Dist. Co., Easton, Pa.
Clifton Chemical Co., 62 William St., N. Y.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
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J. O. Draper Co., Pawtucket, R. I.
E. I. du Pont de Nemours Co., Wilmington, Del.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Enterprise Mill Soap Wks., 2231 N. 12th St., Philadelphia
Haag Labs., 140th & Seeley Ave., Blue Island, Ill.
Hockwald Chem. Co., 135 Mississippi St., San Francisco
Arnold Hoffman & Co., Providence, R. I.
Hysan Prods. Co., 932 W. 38th Place, Chicago
Iowa Soap Co., 810 Valley St., Burlington, Ia.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Laurel Soap Mfg. Co., Tioga St., Phila.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn, N. Y.
Los Angeles Soap Co., Los Angeles, Cal.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
Michel Export Co., 90 Broad St., N. Y.
Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
National Oil Products Co., Harrison, N. J.
National Soap Co., 357 South 26th St., Tacoma, Wash.
Newell Gutradt & Co., 350 Fremont St., San Francisco
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Puritan Soap Co., 573 Lyell Ave., Rochester, N. Y.
Rome Soap Mfg. Co., Rome, N. Y.
Sandoz Chemical Works, 61 Van Dam St., N. Y.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Scholler Bros., 3301 Amber St., Philadelphia
Geo. E. Sherman Co., 153 Classon Ave., Brooklyn, N. Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
Superior Soap Corp., 121 Nostrand Ave., Brooklyn
Swift & Co., Union Stock Yards, Chicago
Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Ultra Chem. Wks., Inc., Paterson, N. J.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Warwick Chem. Co., West Warwick, R. I.
M. Werk Co., St. Bernard, Cincinnati
Jacques Wolf & Co., Passaic, N. J.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

TEXTILE SODA (see Soda)

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Commercial Solvents Corp., 17 E. 42nd St., N. Y.
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Enterprise Mill Soap Wks., 2231 N. 12th St., Philadelphia
Franklin Research Co., 5134 Lancaster Ave., Phila.
General Dyestuff Corp., 435 Hudson St., N. Y.
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Arnold Hoffman & Co., Providence, R. I.
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Miranol Chem. Co., 16 Melville Pl., Irvington, N. J.
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National Starch Prods. Co., 820 Greenwich St., N. Y.
Pennsylvania Refining Co., Butler, Pa.
Rumford Chem. Works, Rumford, R. I.
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L. Sonneborn Sons, 88 Lexington Ave., N. Y.
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Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City
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Woburn Chemical Corp., Harrison, N. J.
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Chemical Supply Co., Plymouth Bldg., Cleveland
Chicago Sanitary Prods. Co., 3100 Throop St., Chicago
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Palmer Products, Inc., Waukesha, Wisc.
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Texas Soap Mfg. Corp., 4905 Calhoun Rd., Houston
Texol Chem. Wks., 3 Winter St., Worcester, Mass.
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Allen B. Wrisley Co., 6801 W. 65th St., Chicago

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Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., Los Angeles, Cal.
National Oil Products Co., Harrison, N. J.
Peck's Products, 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Swift & Co., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOILET SOAP MILLS (see Soap Machinery)

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Long Island Soap Co., 29 Bridgewater St., Brooklyn
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Procter & Gamble, Cincinnati
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Vliet Soap Co., 638 Monroe St., Brooklyn
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(see also Essential Oils)

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Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
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Blockson Chemical Co., Joliet, Ill.
Chemical Mfg. & Dist. Co., Easton, Pa.
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Hubman Supply Co., 225 N. 4th St., Columbus, O.
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Calif.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Mathieson Alkali Co., 60 E. 42nd St., N. Y.
Monsanto Chem. Co., St. Louis
Permutit Co., 330 W. 42nd St., N. Y.
Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Co., Cincinnati
Richards Sales Corp., Jersey City, N. J.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Rumford Chem. Works, Rumford, R. I.
Shores Co., Cedar Rapids, Ia.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
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Westvaco Chlorine Prods. Co., 405 Lexington Ave., N. Y.

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T. G. Cooper & Co., 47 N. 2nd St., Phila.
Cornelius Prods. Co., 432 4th Ave., N. Y.
Wm. Dienl & Co., 336 W. 42nd St., N. Y. 18
Distributing & Trading Co., 444 Madison Ave., N. Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Industrial Raw Materials Corp., 52 Wall St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
International Wax Refining Co., 4415—3rd Ave., B'klyn
W. & A. Leaman, 17 State St., N. Y.
Lenape Trading Co., 233 Broadway, N. Y.
George H. Lincks, 155 John St., N. Y.
Muench-Kreuzer Candle Co., Syracuse, N. Y.
Neumann-Buslee & Wolfe, 224 W. Huron St., Chicago
Orbis Products Corp., 215 Pearl St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
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R. F. Revson Co., 144 W. 18th St., N. Y.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
H. H. Rosenthal Co., 25 E. 26th St., N. Y.
Frank B. Ross Co., 507—8th St., Hoboken, N. J.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
William H. Scheel, Inc., 38 Franklin St., Bklyn.
Standard Oil Co., (Calif.), 225 Bush St., San Francisco
A. E. Starkie, 5461 W. Division St., Chicago
F. W. Steadman Co., 59 Pearl St., N. Y.
Strahl & Pitsch, 141 Front St., N. Y.
Strohmeyer & Arpe, 139 Franklin St., N. Y.
Twin City Shellac Co., 340 Flushing Ave., Brooklyn
Warwick Chem. Co., W. Warwick, R. I.
Will & Baumer Candle Co., Syracuse, N. Y.

WAXES, Floor and Polishing (see Floor Waxes)

WAXES, Synthetic

Allied Asphalt & Mineral Corp., 217 Broadway, N. Y.
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Atlas Powder Co., Wilmington, Del.
Avon Trading Co., 401 Bdway., N. Y.
Bakelite Corp., 30 E. 42nd St., N. Y.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Concord Chem. Co., Independence Sq., Phila.
Cornelius Prods. Co., 432 4th Ave., N. Y.
Wm. Diehl & Co., 336 W. 42nd St., N. Y. 18
E. I. du Pont de Nemours Co., Wilmington, Del.
General Dyestuffs Corp., 435 Hudson St., N. Y.
Innis, Speiden & Co., 117 Liberty St., N. Y.
International Wax Refining Co., 4415—3rd Ave., B'klyn
Monsanto Chem. Co., St. Louis
National Oil Products Co., Harrison, N. J.
Wm. H. Scheel, Inc., 38 Franklyn St., Bklyn., 22
Sherwood Refining Co., Englewood, N. J.
F. W. Steadman Co., 59 Pearl St., N. Y.
Strahl & Pitsch, 141 Front St., N. Y.
Van Dyk & Co., Belleville, N. J.

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Chipman Chem. Co., Bound Brook, N. J.
Dow Chemical Co., Midland, Mich.
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Stokes & Smith Co., 4915 Summerdale Ave., Phila.
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Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
E. I. du Pont de Nemours Co., Wilmington, Del.
Emulsol Corp., 59 E. Madison Ave., Chicago
General Dyestuff Corp., 435 Hudson St., N. Y.
W. C. Hardesty Co., 41 E. 42nd St., N. Y.
Hercules Powder Co., Wilmington, Del.
Michel Export Co., 90 Broad St., N. Y.
Monsanto Chemical Co., St. Louis
National Aniline & Chem. Co., 40 Rector St., N. Y.
National Oil Products Co., Harrison, N. J.
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(see also Brokers and Dealers)

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Murray Oil Prods. Co., 21 West St., N. Y.
J. H. Redding Co., 17 Battery Pl., N. Y.
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Arthur C. Trask Co., 4103 S. LaSalle St., Chicago
Welch, Holme & Clark, Inc., 563 Greenwich St., N. Y.
Wilbur-Ellis Co., 17 Battery Pl., N. Y.

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(see also Fish Oil Soaps)

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National Oil Products Co., Harrison, N. J.
National Soap Co., Box 1613, Tacoma, Wash.
Newell, Gutradt Co., 350 Fremont St., San Francisco
North Coast Chemical & Soap Works, Seattle, Wash.
Peck's Prods. Co., 5240 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Werner G. Smith Co., 2191 W. 110th St., Cleveland

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Werner G. Smith Co., 2191 W. 110th St., Cleveland
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Stanco Distributors, Inc., 216 W. 14th St., N. Y.
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J. M. Lehmann Co., Lyndhurst, N. J.
Miller Wrapping & Sealing Mach. Co., 16 S. Clinton St Chicago
Newman Tallow & Soap Mach. Co., 1051 W. 35th St Chicago (Used)
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Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
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Nuodex Products Co., 312 Division St., Elizabeth, N. J.

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J. T. Baker Chem. Co., Phillipsburg, N. J.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
E. I. du Pont de Nemours Co., Wilmington, Del.
Eagle-Picher Lead Co., 134 N. LaSalle St., Chicago
Harshaw Chem. Co., Cleveland
Innis, Speiden & Co., 117 Liberty St., N. Y.
Mallinckrodt Chemical Works, St. Louis, Mo.
Merck & Co., Rahway, N. J.
New Jersey Zinc Co., 160 Front St., N. Y.
Orbis Products Corp., 215 Pearl St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
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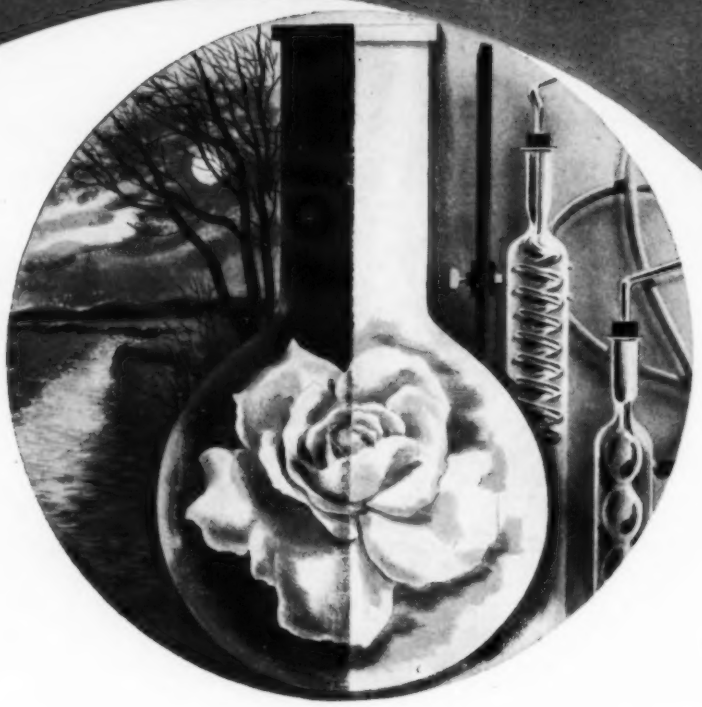

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1945 Soap Fat and Oil Use

CONSUMPTION of primary fats and oils by the American soap maker registered a drop of approximately 12 per cent in 1945, as compared with the previous year, total use by the industry dropping to 1,757,451 lbs. from the previous year's total of 2,001,611 lbs. Consumption was heaviest in the first quarter, when 519,920,000 lbs. of fats and oils found their way to the soap kettle. There was a drop to 452,487,000 lbs. in the second quarter, and a further drop to the low point of 383,997,000 lbs. in the third quarter. In the final quarter of the year there was a slight recovery, with 401,054,000 lbs. of fats being processed into soap.

As in recent war time years, tallow and grease again represented the soap maker's chief raw material, totaling 79 per cent of the entire volume of fats and oils going into soap during the year. Soapers used 952,335,000 lbs. of inedible tallow during the year, in addition to another 32,067,000 lbs. of edible tallow. Consumption of grease was 412,105,000 lbs. Both totals show a decline from the 1944 consumption figures, in line with the decrease in soap production.

The year showed a substantial decline in use of lard as a soap raw material. Where 176,266,000 lbs. of lard went to the soap kettle in 1944, only 82,070,000 lbs. were used by soapers in 1945, three-quarters of this total in the first half of the year. Despite the decline, lard was still the soap maker's fourth most important raw material from a volume standpoint in 1945. It was displaced by fish oil in the third spot. Fish oil consumption in soap jumped to 114,344,000 lbs. in 1945, a substantial increase over the 50,891,000 lbs. used in soap in 1944.

Continuing the declining trend of the war time years, consumption of coconut oil for soap making dropped off still further in 1945, falling to 59,352,000 lbs. from the 131,558,000 lb. total of 1944.

Compensating partially for the smaller quantity of coconut oil, soapers got increased amounts of the other two high lauric acid oils during 1945, palm kernel and babassu. Consumption of PK moved up to 29,967,000 lbs. in 1945 from the almost inconsequential total used in 1944. As for babassu, 1945 consumption by soapers was 32,477,000 lbs. as against 13,006,000 lbs. in 1944.

The only other oil to go to the soap kettle in any substantial quantity during 1945 was palm oil, of which soapers used 24,452,000 lbs., as compared with 19,675,000 lbs. in 1944.

FACTORY CONSUMPTION OF ANIMAL AND VEGETABLE FATS AND OILS IN THE MANUFACTURE OF SOAP

Source: U. S. Department of Commerce Bureau of the Census
(Quantities in thousands of pounds)

Kind	1940	1941	1942	1943	1944	1945 (*Preliminary*)
Cotton oil	2,971	3,010	2,863	991	586	1,695
Peanut oil	387	597	485	256	564	846
Coconut oil	398,857	484,124	140,487	142,346	131,558	59,352
Corn oil	3,638	4,948	4,102	833	887	721
Soybean oil	17,612	24,737	31,510	15,428	3,258	4,219
Olive edible	130	84	27	11	83	18
Olive ined.	1,637	555	365	499	337	302
Olive foots	14,948	10,029	4,832	4,987	2,619	1,684
Palm oil	84,934	129,871	55,865	32,621	19,675	24,452
Palm kernel	197	1,113	1,928	1,840	1,938	29,967
Rapeseed oil ...	49	5	....	1	....	....
Linseed oil	1,489	2,278	4,019	1,697	2,253	915
Perilla oil	....	....	....	....	....	....
Castor oil	1,225	1,976	7,949	1,091	17,360	1,857
Sesame oil	38	304	189	65	....	....
Babassu oil	41,221	29,753	19,105	25,814	13,006	32,477
Other veg.	2,051	1,162	2,487	675	3,164	2,338
Lard	645	89	96	74,039	176,266	82,070
Stearin	549	70	483	275	211	....
Oleo oil	127	189	205	2,160	3,243	3,685
Tallow, ed.	657	4,826	634	4,652	43,761	32,067
Tallow ined. ...	786,456	1,057,303	1,188,923	884,862	1,005,777	952,335
Grease	256,886	310,487	338,974	463,811	523,972	412,105
Neat's foot	19	35	19	68	9	....
Marine oils	19,250	6,889	21,989	284	9	2
Fish oils	88,661	69,423	50,412	44,688	50,891	114,344
Total	1,722,634	2,143,857	1,871,039	1,703,994	2,001,611	1,757,451

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(Beta-Naphthol Methyl Ether)

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Methyl Cyanoacetate

Benzophenone
Acetophenone
Methyl Acetophenone

Phenyl Acetic Acid
Methyl Phenyl Acetate
Ethyl Phenyl Acetate
Amyl Phenyl Acetate

Alpha Amyl Cinnamic Aldehyde
Methyl Formate
Ethyl Formate
Triethyl Orthoformate

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Triacetin

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Soap Sales Statistics

SOAP sales in the United States declined, both in terms of dollars and pounds in 1945, as compared with record highs set in both these departments in 1944, according to figures compiled by the Association of American Soap and Glycerine Producers. The figures are based on reports of 61 manufacturers who report sales totals to the association. Deliveries of soap other than liquid, reported by the 61 manufacturers, amounted to 2,872,131,000 pounds, which was 12.6 per cent less than deliveries reported in 1944 (3,283,969,000 lbs.). Sales in terms of dollars for other than liquid soaps totaled $400,410,000 in 1945, as against $442,857,000 in 1944.

Liquid soap deliveries, as reported by 39 manufacturers showed a gain in 1945, amounting to 4,272,000 gallons, valued at $4,724,000, as against 3,744,414 gallons, worth $4,288,688 in 1944. Sales, from the standpoint of dollar volume and gallonage, reached their highest point last year in the eleven year period of 1935 to 1945.

The aggregate sales value of deliveries of all types of soaps reported for 1945 by the manufacturers participating in the census was $405,134,000, a decline of nearly nine per cent from the previous year.

Although 1945 did fall short of the record 1944 poundage and dollar figures, from the dollar standpoint it was the second largest year in the 1935-'45 period and fourth in soap poundage for that period. The first quarter of 1945 was the largest first quarter, dollarwise, for the 1935-'45 period. Total sales for that period amounted to $110,214,000. Sales dropped to $102,533,000 in the second quarter, however, and still further to $93,045,000 in the third quarter. A moderate recovery was noted in the fourth quarter, when sales advanced to $97,451,000.

On sales of liquid soaps, the first quarter record was 829,000 gallons, worth $1,045,000. A drop was noted in the second quarter, the total being 789,000 gallons, worth $1,029,000. In the third quarter gallonage increased to 841,000 gallons, but dollar value of these increased sales dropped to $984,000. In the fourth quarter there was a further drop in both dollar and gallonage figures, the record for this final quarter of the year being 725,000 gallons of liquid soap worth $826,000.

The quarterly sales figures for soaps other than liquid are given as follows: 1st quarter, 805,101,000 lbs.; 2nd quarter, 751,636,000 lbs.; 3rd quarter, 654,707,000 lbs.; 4th quarter, 649,654,000 lbs.

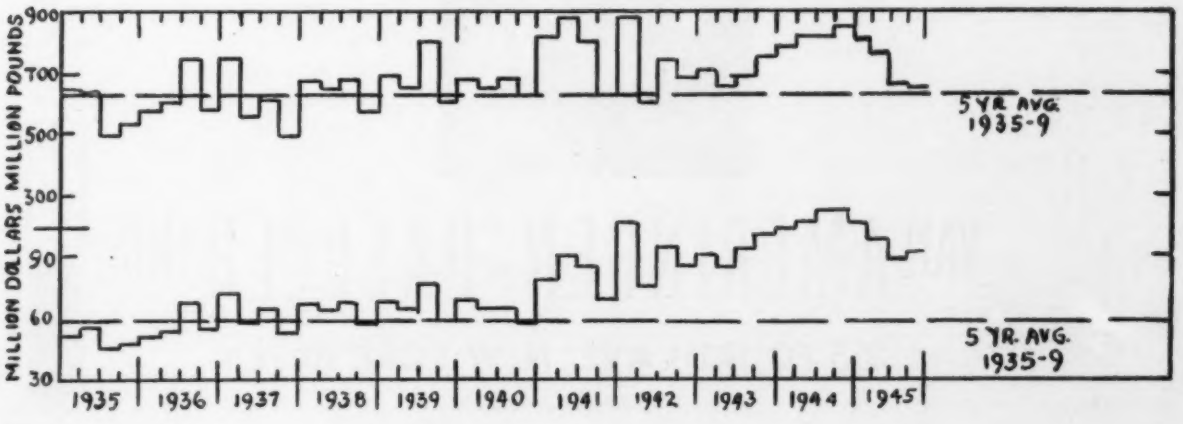
SOAP SALES 1936-1945
(in thousands of dollars)

	1936	1937	1938	1939	1940
1st Quarter	51,057	72,268	66,771	68,020	68,829
2nd Quarter	54,040	57,976	64,012	64,346	65,101
3rd Quarter	67,463	64,846	67,655	77,461	66,189
4th Quarter	64,882	52,417	57,142	58,853	58,385
Total	227,442	247,507	255,580	268,680	258,504
	1941	1942	1943	1944	1945
1st Quarter	78,929	106,860	90,945	104,523	110,214
2nd Quarter	90,194	75,879	84,546	108,680	102,533
3rd Quarter	85,906	94,121	94,600	112,312	93,045
4th Quarter	70,057	85,248	101,996	115,596	97,451
Total	325,086	362,108	372,087	441,111	403,243

SALES IN POUNDS (thousands)

	1941	1942	1943	1944	1945
1st Quarter	813,559	890,028	710,047	783,699	805,101
2nd Quarter	885,383	597,503	650,394	822,035	751,636
3rd Quarter	799,665	739,120	694,784	812,677	654,707
4th Quarter	620,490	681,809	752,402	854,526	649,654
Total	3,119,097	2,908,460	2,807,627	3,272,937	2,861,098

Above figures include only comparable totals of reporting members of Assn. American Soap & Glycerine Producers



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Fat Salvage Statistics

SINCE August 1942, when the American Fat Salvage Committee began to recover used cooking fats, more than 646 million pounds of salvaged fats have been returned to our national economy. Total collections of salvaged fats in 1945 were 177 million pounds, compared with 220 million pounds during 1944.

One hundred and forty-three million pounds, or 80 per cent, were turned in by civilians, and 34 million pounds by the armed services. Fat salvage has been responsible for a little better than 10 per cent of total U. S. production of inedible tallow and greases and has represented a most important continuing source of supply. Dr. Dennis A. Fitzgerald, of the U. S. Department of Agriculture, recently pointed out that in 1945, if it had not been for salvaged fats, civilians would have had 13 per cent less soap, or it would have been necessary to divert some part of our inadequate supplies of edible fats to the manufacture of soaps.

The fat salvage campaign supplied enough fats during 1945 to produce approximately half of the toilet soap, all of the laundry bar soap, about 25 per cent of the heavy duty packaged laundry soaps, or twice as much as was needed to produce all the fine fabric packaged soaps.

One pound of salvaged fat is enough to make one large package of granulated laundry soap, about six bars of laundry soap, or about five bars of toilet soap. Average per capita use of bar toilet soap is about one per month. Average consumption of laundry bars is about nine per year, and consumption of packaged laundry soap is approximately six large packages per capita per year.

The U. S. Department of Agriculture has estimated that in the prewar days, 500,000,000 pounds of fats annually were thrown down the drain. Half a billion pounds of household grease is enough to make 20 bars of laundry soap for every person in the country.

It will be observed in the accompanying table that there was a decided drop in civilian collections after the end of the European war and a still further decline after the end of the Japanese war. This trend was reversed in October, 1945, when the four-red-point-per-pound ruling became effective. (Previously, the turn-in value of used cooking fat had been two red ration points per pound.) However, point rationing of meats and fats and oils came to an end November 24, 1945, and another drop occurred in fat collections in December as a result.

Fats and oils still weren't available in any quantity from the islands of the South Pacific, despite the end of the war, and a high level of fat salvage collections was necessary during the change-over from war to a peacetime economy. Therefore, a new appeal to the housewife's self-interest was developed and put into immediate effect. It was "Turn in Used Fats to Help Prevent Soap Shortages." Results have been encouraging and collections are currently at the highest levels since March, 1945. Civilians alone are turning in fats at the rate of over 16 million pounds per month. The armed services are salvaging approximately 1½ lbs. per month more.

Currently, housewives are being shown that every pound of used cooking fat they save does double-duty. Their salvaged grease goes into industrial channels, helping manufacturers supply them with more soap, nylons, electrical appliances, paint, paper, synthetic rubber, cellophane, pharmaceuticals, fabrics, floor coverings, leather goods, and other products they have gone without during war years. Then it is pointed out that fat salvage does another job too. Consistent salvage of used household grease makes available more food fat supplies for the rest of the world, by relieving the strain on edible supplies.

"Because food fats and industrial fats are largely interchangeable," copy runs, "American housewives are being asked by President Truman's Famine Emergency Committee to use and re-use all food fats, and then after they have gotten all the food value from them, to turn in their used fats for industrial uses. "This will mean that industry will not have to make as great demands on the over-all supply of available fats and oils and that more food fats can go to feed the starving."

Civilian Fat Salvage Collections

	1942 *lbs.*	1943 *lbs.*	1944 *lbs.*	1945 *lbs.*	1946 *lbs.*
January		6,017,557	14,870,000	15,050,000	12,532,000
February		6,977,664	15,253,000	14,073,000	12,241,000
March		7,335,997	17,666,000	17,332,000	16,077,000
April		7,327,133	18,272,000	15,307,000	
May		7,982,500	16,958,000	13,533,000	
June		8,646,605	14,663,000	11,498,000	
July		7,819,082	14,803,000	10,049,000	
August	3,016,338	7,341,875	11,379,000	9,380,000	
September ...	3,812,728	7,288,544	11,490,000	8,011,000	
October	4,821,160	7,379,483	12,069,000	10,735,000	
November ...	4,718,155	6,815,750	11,457,000	9,347,000	
December ...	5,098,846	8,924,350	11,734,000	8,577,000	

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Government Orders

Covering use of fats and oils, by soap makers, inventory controls, pricing of soaps, toiletries, etc.

FAT and OIL USE in SOAP
WFO-42b

(as amended Mar. 8, 1946)

USE OF FATS AND OILS IN SOAP

The fulfillment of requirements for the defense of the United States will result in a shortage in the suuply of fats and oils for defense, for private account, and for export; and the following order is deemed necessary and appropriate in the public interest and to promote the national defense:

§ 1460.33 *Use of fats and oils in soap* —(a) *Definitions.* (1) Fats and oils" means all the raw, crude, refined, and pressed fats and oils, whether vegetable, animal, fish, or other marine animal, their by-products and derivatives, including foots, grease (lard) oil, sulfonated and similarly processed fats and oils, fatty acids, lard and rendered pork fat, and the fat and oil content of any other product, but not including glycerine, cocoa butter, butter, wool grease or fat, essential oils, tall oil, mineral oils, and vitamin-bearing oils (including their by-products and derivatives) obtained from fish or other marine animal livers or viscera.

(2) "Manufacturer" means any person who uses fats and oils in the manufacture of soap. The term shall also include a soap converter.

(3) "Soap converter" means any person who uses soap made by others as a raw material and, by the addition of other materials or ingredients, makes a finished product which is sold for detergent purposes. The term soap converter" shall not include persons who merely add small amounts of color or perfume to the original soap, or who merely dissolve paste or other soaps in water to make liquid soaps without adding other non-soap detergent materials.

(4) "Soap" means the water-soluble product formed by the saponification or neutralization of fats, oils, or their fatty acids with organic, sodium or potassium bases; or any composition containing such products, including all types of shaving soap and shaving cream.

"Soap" shall include synthetic detergents made from fats and oils or their derivatives.

(5) "Package and bar soap" means all bar soap, however packed, and all other soap originally packed in unit packages containing less than 25 pounds net.

(6) "Bulk package soap" means any soap, except bar soap, originally packed in unit packages containing 25 pounds net or more.

(7) "Abrasive hand soap" means paste and powdered soap products sold regularly for the removal of soil from the human skin, which contain by weight, on a moisture-free basis, not less than 10 per cent nor more than 40 per cent anhydrous soap, and not less than 25 per cent abrasive material of an organic or inorganic nature, to facilitate soil removal.

(8) "Foots" means the by-product residue or the derivatives thereof obtained in the refining of any fat or oil, except linseed oil, where such refining is accomplished by treatment of such fat or oil with any alkaline material.

(9) "Washed, recovered linseed oil" means the by-product residue or the derivatives thereof obtained in the refining of linseed oil where such refining is accomplished by treatment of linseed oil with any alkaline material.

(10) "Base period" means the calendar years 1940 and 1941.

(11) "Exempt agency" means (i) the Army, Navy, Marine Corps, or Coast Guard of the United States; (ii) the United States Department of Agriculture (including, but not restricted to, any coropate agency thereof); and (iii) the War Shipping Administration or any approved ship supplier designated as such by War Shipping Administration.

(12) "Person" means any individual, partnership, association, business trust, corporation, or any organized group of persons whether incorporated or not.

(13) "Director" means the Director of Distribution, War Food Administration.

(14) "Inventory," with respect to soap, means the quantity of soap owned by any person, wherever located, excluding a soap converter's stock of finished products.

(15) "Current rate of consumption," as determined an ony particular date, means (i) the amount of soap used foı a specific purpose during the 45-day pe riod immediately prior to such date, oı (ii) the amount of soap scheduled for use for a specific purpose during the 45-day period immediately following such date.

(16) "Builder" means any water soluable alkaline compound added to soap tc aid or increase its detergent properties, excluding sodium or potassium hydroxide.

(17) "Synthetic detergents" means any water-soluble, surface-active, organic material possessing detergent and wetting properties which are retained in aqueous solution of calcium or magnesium chloride.

(18) "Rosin" means the common resin obtained from trees of the pine family and includes gum rosin, wood rosin, hydrogenated rosin, polymerized rosin, rosin or abietic acid separated from tall oil, and crude or refined tall oil as such.

(b) *Restrictions on manufacturer.* (1) Except as hereinafter provided, no manufacturers shall, in any calendar quarter, use fats and oils in the manufacture of soap in excess of a quota equal to the permitted percentage of the average amount of fats and oils used in such class of soap during the corresponding calendar quarters of the base period:

Class of soap:	*Permitted percentage*
Package and bar soap	78
Bulk package soap	84

(2) Any manufacturer who has used his quotas for all classes of soap for any calendar quarter may use up to 10,000 pounds of fats and oils, in the aggregate, for soap in such calendar quarter in addition to his quotas. This additional usage shall not constitute a quota under any provision of this order. Any unused portion of such permitted additional usage shall not be carried forward to a succeeding calendar quarter.

(3) Any manufacturer who does not use his entire quota for any calendar quarter may carry the unused portion of such quota forward only to the succeeding calendar quarter and may use the same in the succeeding calendar quarter after his regular quota for such quarter has been used.

(4) For the purpose of determining the quantity of raw "foots" or "washed, recovered linseed oil" which may be used use shall be calculated on the basis of total fatty acid content.

(5) All restrictions on the use of fats and oils are imposed with respect to aggregate quantities, and such restrictions are not to be construed as limiting a manufacturer to the use of the same fat or oil used in the base period.

(6) No manufacturer shall use lard or rendered pork fat in the manufacture of soap unless the lard or rendered pork fat so used was purchased by such manufacturer prior to November 13, 1944.

(c) *Quota exemptions.* Nothing in (b) (1) hereof shall restrict the following uses of fats and oils:

(1) Use by any manufacturer who used fats and oils in soap prior to July 1, 1943, and whose total use in any calendar quarter is not over 20,000 pounds, exclusive of use pursuant to (c) (2) or (c) (3) hereof; or the use by any manufacturer whose use of fats and oils did not begin until on or after July 1, 1943, and whose total use in any calendar quarter is not more than 1,000 pounds, exclusive of use pursuant to (c) (2) or (c) (3) hereof. The permitted usage under this section (c) (1) shall not constitute a quota under any provision of this order;

(2) Subject to the provisions of (d) hereof, use in soap delivered or contracted for delivery, directly or through intermediate distributors, to:

(i) An exempt agency, or the Veterans Administration, pursuant to the provisions of a contract;

(ii) Any person for use in laundering under contract with an exempt agency or with the United States Maritime Commission; or

(iii) Any person or agency specified by the Director.

(3) Use in soap for shipment to any territory of the United States, or for export to the Dominion of Canada or to any other country pursuant to an export license issued by the Office of International Trade, Department of Commerce.

(4) Use in abrasive hand soap, or in soap used for non-detergent purposes or for the processing of textiles;

(5) Use in soap for sale to soap converters for further processing; or

(6) Until March 31, 1945, the use of fish oil by any manufacturer: *Provided however,* That if such manufacturer used fish oil in the manufacture of soap during the base period, the amount so used shall be excluded in determining his quota under (b) (1) hereof.

(d) *Certificates.* (1) Any delivery of of soap made through an intermediate distributor to an exempt agency or to the Veterans Administration, and any delivery of soap, direct or indirect, to any person specified in (c) (2) (ii) or (c) (2) (iii) hereof, shall not result in an exemption from the quota restrictions under b) (1) hereof, unless a certificate or certificate copy thereof is obtained by the person claiming such exemption, which certificate shall contain the folloiwng: the name of the manufacturer and of the person making delivery of the soap, the amount and kind of soap delivered or to be delivered, and a statement that the person or agency to whom delivery has been or will be made has either received the soap covered by the certificate or has contracted therefor. If delivery has been or will be made to a person specified in (c) (ii) or (c) (2) (iii) hereof, the certificate shall state the purpose for which the soap is to be used. All certificates shall be signed by the person or agency receiving the soap, or by an authorized representative, and shall be turned over to the deliverer who, if he is not the manufacturer of the soap, shall forward the certificate promptly to the manufacturer. Upon receipt of the certificate, the manufacturer named thereon shall endorse upon the certificate the amount of fats and oils used in the manufacture of the soap covered by the certificate.

(2) All certificates executed under (d) (1) hereof shall be retained by the person claiming exemption. All statements contained in such certificates shall be deemed representations to an agency of the United States. No person shall be entitled to rely upon any such certificate if he knows or has reasonable cause to believe it to be false.

(e) *Establishment of base period usage.* (1) No manufacturer may use fats and oils under (b) (1) hereof unless and until he has filed, on Form FDO 42-1, a report of his use of fats and oils in each class of soap for each calendar quarter of the base period.

(2) Fats and oils used by a manufacturer during the base period for any purpose set forth in paragraphs (c) (2), (c) (4), or (c) (5) hereof, or in the manufacture of soap for export to a foreign country or for shipment to any territory of the United States, shall be excluded in determining his quota under paragraph (b) (1) of this order.

(f) *Acquisition of facilities.* Any person who acquires all the soap making facilities of another person shall become entitled to the quotas of such person, whether or not he continues to operate such facilities in whole or in part, *Provided,* That he shall, within 30 days following such acquisition, inform the Director of the facilities acquired, their location, whether or not operations will be continued in the same or another location, and the amount of quota which he claims to have acquired for each class of soap.

(g) *Toll agreements.* Fats and oils owned by one person and processed by another shall be charged against the quota of the owner and not the processor, *Provided, however,* That the title to any soap so manufactured shall remain in the owner of the fats and oils and such owner shall market such soap and shall invoice and collect therefor through his own organization, and the processor shall not buy directly or indirectly any soap so produced. Otherwise, fats and oils so processed shall be chargeable against the quota of the processor.

(h) *Computation of quotas; diversion.* Any manufacturer may divert a quantity of fats and oils, from the average quarterly amount of fats and oils used by him in the base period in the manufacture of a particular class of soap, to the average quarterly amount of fats and oils used by him in the base period in the manufacturer of another class of soap: *Provided,* That the total amount so diverted shall not exceed 250,000 pounds during any calendar quarter under this order; and, *Provided further,* That his total permitted use for all classes of soap in any calendar quarter shall not, after such diversion, exceed (but may be less than) his total permitted use of fats and oils in the manufacture of all soap as computed prior to such diversion.

(i) *Exemption for washed, recovered linseed oil.* In computing the amount of fats and oils used under (b) (1), (b) (2), or (c) (1) hereof, a manufacturer need count only 50 per cent of the actual amount of washed, recovered linseed oil so used.

(j) *Purchases from exempt agencies.* The fat and oil content of any soap which is purchased by a manufacturer from any exempt agency, other than approved ship supplier, shall not be chargeable against his quota if the product so purchased is used by him in reworking into any class of soap.

(k) *Exemption for lard and rendered pork fat.* Any manufacturer who, during the period from May 15 to June 30 1944, both inclusive, and the period from July 17 to July 31, 1944, both inclusive, purchased and accepted delivery of lard or rendered pork fat, may use such lard or rendered pork fat without charge

against quota in the manufacture of soap.

(l) *Records and reports.* (1) Every manufacturer, except a soap converter, who uses more than 15,000 pounds of fats and oils in any calendar quarter shall properly fill out and mail to the Bureau of the Census, Washington 25, D. C., Bureau of the Census Form BM-1 for each calendar month, on or before the 15th day of the month immediately following, and Bureau of the Census Form BM-2 for each calendar quarter, on or before the 15th day of the second month following such calendar quarter. Nothing contained herein shall be construed as requiring any person to file more than one form BM-1 in any month, or more than one form BM-2 in any calendar quarter, except that a separate report shall be filed for each plant in which such person uses fats and oils.

(2) Beginning with the third calendar quarter of 1944 every manufacturer subject to (b) (1) hereof shall file, on Form FDO 42-5, a quarterly report of his use of fats and oils in soap. Such report shall be filed on or before the 20th day of the month succeeding such calendar quarter.

(3) Every person subject to this order shall, for at least two years (or for such period of time as the Director may designate), maintain an accurate record of his production of and transactions in fats and oils..

(m) *Existing contracts.* The restrictions of this order shall be observed without regard to existing contracts or any rights accrued or payments made thereunder.

(n) *Audits and inspections.* The Director shall be entitled to make such audit or inspection of the books, records and other writings, premises or stocks of fats and oils of any person and to make such investigations as may be necessary or appropriate, in his discretion, to the enforcement or administration of the provisions of this order.

(o) *Petition for relief from hardship.* Any person affected by this order who considers that compliance herewith would work an exceptional or unreasonable hardship on him may file a petition for relief with the Order Administrator. Petitions shall be in writing and shall set forth all pertinent facts and the nature of the relief sought. The Order Administrator may take any action with reference to such petition which is consistent with the authority delegated to him by the Director. If the petitioner is dissatisfied with the action taken by the Order Administrator he may, by request addressed to the Order Administrator, obtain a review of such action by the Director. After said review, the Director may take such action as he deems appropriate, which action shall be final.

(p) *Violations.* Any person who violates any provision of this order may, in accordance with the applicable procedure, be prohibited from receiving, making any deliveries of or using fats and oils. Any person who wilfully violates any provision of this order is guilty of a crime and may be prosecuted under any and all applicable laws. Civil action may also be instituted to enforce any liability or duty created by, or to enjoin any violation of any provision of this order.

(q) *Effect of other orders.* So far as any other war food order heretofore or hereafter issued limits or curtails to a greater extent than herein provided, the use, acquisition, or disposition of any fat or oil, the limitations of such other order shall control.

(r) *Communications.* All reports required to be filed hereunder and all communications concerning this order shall, unless herein otherwise provided, be addressed to the Order Administrator, War Food Order No. 42, Fats and Oils Branch Office of Distribution, War Food Administration, Washington 25, D. C.

(s) *Delegation of authority.* The administration of this order and the powers vested in the War Food Administrator, insofar as such powers relate to the administration of this order, are hereby delegated to the Director. The Director is authorized to redelegate to any employee of the United States Department of Agriculture any or all of the authority vested in him by this order.

(t) *Territorial scope.* This order shall apply within the 48 States and the District of Columbia.

(u) *Effective date.* This order shall become effective at 12:01 a.m., e. w. t., September 30, 1944.

(v) *Limitation on soap inventories.* (1) Except as provided in paragraph (v) (4) hereof, no person shall accept delivery of soap for a specific use in his business operations in any amount which will cause his inventory of soap for such use to exceed the largest of the following quantities: (i) a 45-day supply based upon current rate of consumption; (ii) two cases of packaged soap; (iii) two bulk packages.

(2) Except as provided in paragraph (v) (4) hereof, no person shall deliver or accept delivery of soap in quantities of one or more cases or bulk packages, unless the person accepting delivery executes and furnishes to his supplier a certificate in the following form:

The undersigned hereby certifies to the War Food Administration and to

.....
(Name and address of supplier)

that he is familiar with the terms of War Food Order No. 42b, that this certificate is furnished in order to enable the undersigned to acquire.....soap for a specific
(Quantity)
use in his business operations, to be delivered on or about.....and that
(Date of delivery)
the receipt by him of such soap will not cause his inventory of soap for such specific use to exceed (check applicable provision, whichever is largest)

☐ a 45-day supply based upon current rate of consumption.

☐ two cases of packaged soap.

☐ two bulk packages.

.....
(Purchaser)

..... By .....
(Date) (Authorized official)

(3) All certificates executed under (v) (2) hereof shall be retained by the supplier for examination by the Director upon request. All statements contained in such certificates shall be deemed representations to an agency of the United States. No person shal lbe entitled to rely upon any such certificate if he knows or has reasonable cause to believe it to be false.

(4) The provisions of paragraphs (v) (1) and (v) (2) hereof shall not apply to soap delivered to:

(i) An exempt agency, or to any Federal, State, county or municipal agency;

(ii) Any non-profit medical, educational, charitable, or religious organization;

(iii) Any person for resale in the same form, or after the addition of color or perfume or solution in water."

(w) *Extension of soap.* No manufacturer shall produce package soap (originally packed in unit packages containing less than 25 pounds net) in the form of chips, flakes, powder, granules, or similar forms with an anhydrous soap content or from 50 to 85 percent, both inclusive, unless, by the addition of rosin or builders, the anhydrous soap content derived from fats and oils is reduced to a point not in excess of 90 percent of the anhydrous soap content of such product as manufactured during the 30 day period ending July 17, 1942, *Provided, however,* That this paragraph (w) shall not apply to synthetic detergents.

This summarization of WFO 42b and its nine amendments (the latest issued March 8, 1946) has been prepared by the editors of the Soap Blue Book for the convenience of readers. Quota users of fats and oils under WFO 42b are required to report their quarterly consumption directly to WFA. All users of fats and oils in soap whose consumption is more than 15 pounds per calendar quarter are required to report monthly and quarterly to the Bureau of the Census.

HIGH LAURIC ACID OILS
FDO-43

HIGH LAURIC ACID OILS FDO-43
RESTRICTIONS ON USE, PROCESSING, SALE, AND DELIVERY OF COCOANUT, BABASSU, PALM KERNEL, AND OTHER HIGH LAURIC ACID OILS.

Pursuant to authority vested in me by Executive Order No. 9280, dated December 5, 1942, and to assure an adequate supply and efficient distribution of cocoanut, babassu, palm kernel, and other high lauric acid oils to meet war and essential civilian needs. *It is hereby ordered,* As follows:

§ 1460.10 *Use processing, sale, and delivery of cocoanut, babassu, palm kernel, and other high lauric acid oils restricted*

—(a) *Definitions.* When used in this order, unless otherwise distinctly expressed or manifestly incompatible with the intent thereof:

(1) The term "high lauric acid oils" means cocoanut oil, babassu oil, palm kernel oil, and all other oils having a lauric acid content of thirty-five per cent (35%) or higher, whether crude, refined, bleached, or deodorized.

(2) The term "person" means any individual, partnership, corporation, association, or other business entity.

(3) The term "Director" means the Director of Food Distribution, United States Department of Agriculture, or any employee of the United States Department of Agriculture designated by such Director.

(b) *Prohibited uses.* The use or consumption by any person of high lauric acid oils in the following manufactures, processes, or uses is prohibited:

(1) Any manufacture, process, or use in which glycerine is not produced;

(2) Any manufacture or process in which glycerine is produced, where the recovery of glycerine does not meet the requirements of Food Distribution Order No. 33. (8 F.R. 3475)

(c) *Permitted uses.* (1) Any person may use or consume high lauric acid oils without regard to the restrictions imposed by paragraphs (b) (1) and (b) (2) hereof, in the following instances:

(i) Where the total use or consumption of high lauric acid oils by any person is less than 3,000 pounds in each of the several three month periods of the year commencing January 1, April 1, July 1, and October 1; or

(ii) Where any person uses or consumes Tucum and Muru-muru oils in the manufacture of any edible product, without limitation on such use or consumption: *Provided,* That such use or consumption shall be subject to the provisions of paragraph (f) hereof.

(2) Notwithstanding the provisions of paragraphs (c) (1) (i) and (ii) hereof, no person shall use or consume high lauric acid oils in the manufacture of any margarine, shortening, or cooking fats.

(d) *Reports of unusable oils.* Any high lauric acid oils at any time remaining in the hands of any person which, by reason of any of the provisions of paragraphs (b) (1) and (2) and (c) (1) (i), (ii) and (2) hereof, may not be used or consumed by him, shall be reported to the Director.

(e) *Restrictions on processing.* After the effective date of this order, no persons shall process or change the condition of any high lauric acid oils in preparation for any manufacture or use permitted by this order, except to the extent necessary for such preparation and then only in such quantities as may be necessary to meet his normal production schedule or, if such oils are to be manufactured or used by another person, then the normal production schedule of such other person.

(f) *Withholdings of high lauric acid oils.* Every person who was required by General Preference Order M-60 (7 F.R. 2185) of the War Production Board to set aside an inventory quota shall use, put in process, sell, or deliver, all or any part of such inventory quota only upon express instruction of the Director: *Provided,* That this paragraph (f) shall not be construed to prevent crushing of copra or other seeds or nuts, or to prevent changing the condition of such oil so set aside to the extent necessary to prevent deterioration while carried in inventory. Such quota shall be held subject to the direction of the Director.

(g) *Restrictions on sales and deliveries.* No person shall sell or, directly or indirectly, deliver, or cause to be delivered, any high lauric acid oils for any use prohibited by paragraphs (b) (1) and (2), and (c) (1) (i), (ii) and (2) hereof or in violation of paragraph (f) hereof; and no person shall accept deliveries of any high lauric acid oils for any prohibited use or for any greater quantities or proportions than permitted for consumption.

(h) *Intra-company transactions.* The prohibitions or restrictions contained in this order with respect to deliveries shall, in the absence of a contrary direction, apply not only to deliveries to other persons, including affiliates and subsidiaries, but also to deliveries from one branch, division, or section of a single enterprise to another branch, division, or section of the same or any other enterprise owned or controlled by the same person.

(i) *Existing contracts.* The restrictions of this order concerning the use, processing, sale, and delivery of high lauric acid oils shall be observed without regard to existing contracts or any rights accrued or payments made thereunder.

(j) *Records and reports.* Every person subject to this order shall maintain such records for at least two years (or for such other periods of time as the Director may designate) and shall execute and file such reports upon such forms and submit such information as the Director may from time to time request or direct, and within such times as he may prescribe.

(k) *Bureau of the Budget approval.* The reporting requirements of this order have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942. Subsequent specific record keeping or reporting requirements by the Director will be subject to the approval of the Bureau of the Budget pursuant to the Federal Reports Act of 1942.

(l) *Audits and inspections.* Every person subject to this order shall, upon request, permit inspections of his stocks of cocoanut, babassu, palm kernel, and other high lauric acid oils, and premises used in his business and all of his books, records, and accounts shall, upon request, be submitted to audit and inspection by the Director.

(m) *Petition for relief from hardship.* Any person affected by this order who considers that compliance herewith would work an exceptional and unreasonable hardship on him, may petition in writing (in triplicate) for relief to the Director, setting forth all pertinent facts and the nature of the relief sought. The Director may thereupon take such action as he deems appropriate and such action shall be final.

(n) *Violations.* Any person who willfully violates any provision of this order or who by any act or omission falsifies records to be kept or information to be furnished pursuant to this order or willfully conceals a material fact concerning a matter within the jurisdiction of any Department or agency of the United States may be prohibited from receiving or making further deliveries of any material subject to allocation; and such further action may be taken against him as the Director deems appropriate, including recommendations for prosecution under section 35a of the Criminal Code (18 U.S.C. 1940 ed. 80), under paragraph 5 of section 301 of Title III of the Second War Powers Act, and under any and all other applicable laws.

(o) *Communications to the Department of Agriculture.* All reports required to be filed hereunder and all communications concerning this order shall, unless otherwise directed, be addressed to: Director of Food Distribution, United States Department of Agriculture, Washington, D. C., Ref.: FD 43.

(p) *General Preference Order M-60 of the War Production Board superseded.* This order supersedes in all respects General Preference Order M-60 (7 F.R. 2185) of the War Production Board, except that as to violations of said order or rights accrued, liabilities incurred, or appeals taken under said order prior to the effective date hereof, said General Preference Order M-60 shall be deemed in full force and effect for the purpose of sustaining any proper suit, action, or other proceeding with respect to any such violation, right, or liability. Any appeal pending under said order shall be considered under paragraph (m) hereof.

(q) *Territorial extent.* This order applies to all persons in the United States, its territories and possessions, and the District of Columbia.

(r) *Effective date.* This order shall be effective on April 1, 1943, as of 12:01 a. m., e. w. t.

(E.O. 9280, 7 F.R. 10179)

Issued this 31st day of March 1943

[SEAL] CLAUDE R. WICKARD,
Secretary of Agriculture.

TALLOW & GREASE INVENTORIES
WFO-67

AMDT. 6, MAR. 2, 1945

War Food Order No. 67, as amended (8 F.R. 15810, 9 F.R. 4319, 6147), is further amended to read as follows:

§ 1460.27 *Restrictions on deliveries and inventories of inedible tallow or grease*—(a) *Definitions.* (1) "Inedible tallow or grease" means all grades and qualities, and stearines produced therefrom, excluding garbage grease, wool (grease) fat, grease (lard) oil, neat's foot oil and stock, stearic acid, and red oil.

(2) "Producer" means any person whose operations result in the production of inedible tallow or grease.

(3) "Dealer" means any person who acquires inedible tallow or grease for resale, regardless of whether such person blends or mixes such inedible tallow or grease.

(4) "Manufacturer" means any person who uses inedible tallow or grease in the manufacture of any other product, including mixed fatty acids.

(5) "Inventory means the total quantity of inedible tallow or grease owned by any person, wherever located, and all the inedible tallow or grease for which such person holds a contract for delivery to him in the future. The term shall include all inedible tallow or grease in process up to the point at which it ceases to exist as such, by reason of saponification, neutralization, pressing, distillation, or compounding with non-fatty materials.

(6) "Base period" means the period from July 1, 1944, to December 31, 1944, both inclusive.

(7) "Base period production" means the total quantity of inedible tallow or grease (i) produced during the base period, or (ii) established as the base period production under paragraph (n) hereof.

(8) "Base period deliveries" means the total quantity of inedible tallow or grease delivered to other persons during the base period.

(9) "Base period use" means the total quantity of inedible tallow or grease (i) used during the base period, or (ii) established as the base period use under paragraph (n) hereof.

(10) "Commercial quantity" means a tank car, a tank truck, a carload of packages, or a truck load of packages.

(11) "Maximum unit" means the largest single, segregate, commercial quantity of inedible tallow or grease shipped to and accepted by any person during the base period.

(12) "Certified order" means a written order to a producer or dealer which has attached thereto or incorporated therein a certificate executed in accordance with paragraph (c) hereof.

(13) "Month" means calendar month.

(14) "Continental United States" means the 48 States and the District of Columbia.

(15) "Soap" means the water soluble product formed by the saponification or neutralization of fats, oils, rosins, or their fatty acids with organic, sodium or potassium bases, or any detergent composition containing such products.

(16) "Person" means any individual, partnership, association, business trust, corporation, or any organized group of persons whether incorporated or not.

(17) "Director" means the Director of Marketing Services, War Food Administration.

(b) *Delivery restrictions.* Except as specifically authorized by the Director, no producer or dealer shall, in any month, deliver inedible tallow or grease to any manufacturer on uncertified orders unless and until he has, before the end of such month, filled or offered to fill all certified orders received by him within the 20-day period immediately prior to the 10th day of such month, provided that:

(1) No producer or dealer shall be required to deliver or offer to deliver inedible tallow or grease in any amount less than a commercial quantity or less than the smallest commercial quantity delivered by him in the base period;

(2) No producer shall be required, in any month, to deliver or offer to deliver on certified orders from any one plant more than 30 per cent of the total quantity of inedible tallow or grease delivered from such plant in such month;

(3) No dealer shall be required, in any month, to deliver or offer to deliver on certified orders more than 30 per cent of the total quantity of inedible tallow or grease delivered by him in such month.

(c) *Certified orders.* (1) Any manufacturer who desires inedible tallow or grease for use in the manufacture of any product other than soap or any type, grade or kind of inedible tallow or grease except stearines may, within a 20-day period immediately prior to the 10th day of any month, transmit to his supplier a written order which has attached thereto or incorporated therein a properly executed certificate in the following form:

The undersigned hereby certifies to the War Food Administration and to..... (Producer ..... that he is familiar with the or dealer)
terms of War Food Order No. 67, that this certificate is furnished in order to enable the undersigned to obtain preferred delivery, in accordance with War Food Order No. 67, of.....pounds of inedible tallow or grease on or about....., (Date of delivery)
and that he will use all of such inedible tallow or grease in the manufacture of a product other than soap or any type, grade or kind of inedible tallow or grease except stearines. The undersigned further certifies that the receipt by him of such inedible tallow or grease will not cause his inventory to exceed the amount permitted under War Food Order No. 67.

By .....
(Purchaser)

.....
(Authorized official)

.....
(Date)

(2) No manufacturer who receives inedible tallow or grease under a certified order shall use any part thereof in the manufacture of soap or in the manufacture of any type, grade or kind of inedible tallow or grease except stearines.

(d) *Inventory restrictions.* Except as herein otherwise provided:

(1) No producer shall produce inedible tallow or grease in any quantity which will cause his inventory to exceed 1/12 of his base period production;

(2) No dealer shall accept delivery of inedible tallow or grease in any quantity which will cause his inventory to exceed 1/12 of his base period deliveries;

(3) No manufacturer shall accept delivery of inedible tallow or grease in any quantity which will cause his inventory to exceed 5/12 of his base period use;

(4) No person who, under the provisions of this order, falls within two or more of the following classifications—producer, dealer, or manufacturer—shall produce or accept delivery of in-

edible tallow or grease in any quantity which will cause his inventory to exceed the largest amount he is permitted to have under one of the forgoing paragraphs: (d) (1), (d) (2), or (d) (3).

(e) *Inventory exemption; maximum units.* (1) Any dealer whose inventory does not exceed 1/24 of his base period deliveries may accept delivery of one maximum unit.

(2) Any manufacturer whose inventory does not exceed 1/6 of his base period use may accept delivery of one maximum unit.

(f) *Inventory exemption; OPA ceiling prices.* (1) Any producer or dealer who cannot obtain purchasers for his inedible tallow or grease at the maximum prices established by the Office of Price Administration may increase his inventory above the applicable limitations of (d) hereof, provided that such producer or dealer shall not thereafter refuse or fail to deliver inedible tallow or grease to buyers offering to purchase at such maximum prices until his inventory again falls within the applicable limitations of paragraph (d).

(2) Any manufacturer may increase his inventory above the applicable limitations of paragraph (d) hereof by purchases at prices below the maximum prices established by the Office of Price Administration provided that such manufacturer shall not thereafter buy additional inedible tallow or grease at such maximum prices until his inventory again falls within the applicable limitations of paragraph (d).

(g) *Inventory exemption; imported tallow or grease.* Any manufacturer may increase his inventory above the applicable limitations of paragraph (d) by the acceptance of delivery of inedible tallow or grease imported into the continental United States, if such inedible tallow or grease was imported by such manufacturer or his agent, or is delivered to him by a governmental agency, provided that such manufacturer shall not thereafter accept delivery of inedible tallow or grease produced within the continental United States, except in accordance with paragraph (f) (2) hereof, until his inventory falls within the applicable limitations of paragraph (d).

(h) *Transfers between branches or plants.* The transfer of inedible tallow or grease between branches, plants, or companies owned, controlled or directed by the same person but engaged in separate activities as producers, dealers, or manufacturers, shall constitute delivery or acceptance of delivery within the meaning of this order.

(i) *Records and reports.* (1) All certified orders and all certificates executed under (c) hereof shall be retained for at least two years and shall, upon request, be submitted to the Director for inspection. All statements contained in such certificates shall be deemed representations to an agency of the United States. No person shall be entitled to rely upon any such certificate if he knows or has reasonable cause to believe it to be false.

(2) The Director shall be entitled to obtain such information from and require such reports and the keeping of such records by, any person, as may be necessary or appropriate, in his discretion, to the enforcement or administration of the provisions of this order.

(3) Every person subject to this order shall, for at least two years (or for such other period of time as the Director may designate) maintain an acurate record of his production of and transactions in inedible tallow or grease.

(j) *Existing contracts.* The restrictions of this order shall be observed without regard to existing contracts or any rights accrued or payments made thereunder.

(k) *Audits and inspections.* The Director shall be entitled to make such audits or inspections of the books, records, and other writings, premises, or stocks of inedible tallow or grease of any person, and to make such investigations as may be necessary or appropriate, in his discretion, to the enforcement or administration of the provisions of this order.

(l) *Petition for relief from hardship.* Any person affected by this order who considers that compliance herewith would work an exceptional or unreasonable hardship on him may file a petition for relief with the Order Administrator. Petitions shall be in writing and shall set forth all pertinent facts and the nature of the relief sought. The Order Administrator may take any action with reference to such petition which is consistent with the authority delegated to him by the Director. If the petitioner is dissatisfied with the action taken by the Order Administrator, he may, by request addressed to the Order Administrator, obtain a review of such action by the Director. After said review, the Director may take such action as he deems appropriate, which action shall be final.

(m) *Violations.* Any person who violates any provision of this order may, in accordance with the applicable procedure, be prohibited from receiving, making any deliveries of, or using inedible tallow or grease. Any person who wilfully violates any provision of this order is guilty of a crime and may be prosecuted under any and all applicable laws. Civil action may also be instituted to enforce any liability or duty created by, or to enjoin any violation of, a provision of this order.

(n) *Delegation of authority.* (1) The Director may, upon application, establish a base period production for any producer who did not produce inedible tallow or grease during the base period, or a base period use for any manufacturer who did not use inedible tallow or grease during such period.

(2) The administration of this order and the powers vested in the War Food Administrator, insofar as such powers relate to the administration of this order, are hereby delegated to the Director. The Director is authorized to redelegate to any employee of the United States Department of Agriculture any or all of the authority vested in him by this order.

(o) *Communications.* All reports required to be filed hereunder and all communications concerning this order shall, unless otherwise provided, be addressed to the Order Administrator, War Food Order No. 67, Fats and Oils Branch, Office of Marketing Services, War Food Administration, Washington 25, D. C.

(p) *Territorial scope.* This order shall apply within the 48 states and the District of Columbia.

(q) *Partial suspension of War Food Order No. 67 terminated.* The order suspending certain provisions of War Food Order No. 67, as amended, issued October 16, 1944 (9 F.R. 12607), is hereby terminated.

(r) *Effective date.* This order shall become effective at 12:01 a. m., e. w. t., March 3, 1945. With respect to violations, rights accrued, liabilities incurred, or appeals taken, prior to said date, under War Food Order No. 67, as amended, all provisions of said order shall be deemed to remain in full force for the purpose of sustaining any proper suit, action, or other proceeding with respect to any such violation, right, liability, or appeal.

NOTE: All record-keeping requirements of this order have been approved by, and all subsequent reporting and record-keeping requirements, will be subject to the approval of, the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

(E.O. 9280, 7 F.R. 10179; E.O. 9322, 8 F.R. 3807; E.O. 9334, 8 F.R. 5423; E.O. 9382, 8 F.R. 14783)

Issued this 2d day of March 1945.

ASHLEY SELLERS,
Assistant War Food Administrator.

SOAP PRICES MPR-391

MPR 391—Household Soaps and Cleansers Sold by Manufacturers and Certain Wholesalers Maximum Price Regulation No. 391 as amended to date*

[Preamble] In the judgment of the Price Administrator, it is necessary to issue a regulation establishing dollars and cents maximum prices for certain sales of household soaps and cleansers by manufacturers and certain wholesalers.

A statement of the considerations involved in the issuance of this regulation has been issued

* Issued 5-14-43. (This text includes amendments 1-6, the latest amendment (No. 6) being added 8-7-45.)

simultaneously herewith and filed with the Division of the Federal Register.

Insofar as this regulation uses specifications and standards which were not, prior to such use, in general use in the trade or industry affected, or insofar as their use was not lawfully required by another Government agency, the Administrator has determined, with respect to such standardization, that no practicable alternative exists for securing effective price control with respect to the commodities subject to this regulation.

§ 1386.52 **Maximum prices for household soaps and cleansers sold by manufacturers and certain wholesalers.** Under the authority vested in the Price Administrator by the Emergency Price Control Act of 1942 as amended, and Executive Order No. 9250, Maximum Price Regulation No. 391 (Household Soaps and Cleansers sold by Manufacturers and Certain Wholesalers), which is annexed hereto and made part hereof, is hereby issued.

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ARTICLE I—PROHIBITIONS AND SCOPE OF REGULATIONS

§ 1 **Prohibition against dealing in household soaps and cleansers by manufacturers and certain wholesalers at prices above maximum.** On and after May 24, 1943, regardless of any contract, agreement, or other obligation:

(a) No manufacturer shall sell- deliver, or transfer any household soaps or cleansers at prices higher than the maximum prices set forth in section 5 of this regulation.

(b) No wholesaler shall, sell, deliver, or transfer any household soaps or cleansers to a retail food store at prices higher than the maximum prices set forth in section 6 of this regulation.

(c) No wholesaler shall buy or receive any such household soaps or cleansers in the course of trade or business at prices higher than the maximum prices set forth in section 5 of this regulation.

(d) No retail food store shall buy or receive any such household soaps or cleansers in the course of trade or business at prices higher than the maximum prices set forth in section 6 of this regulation.

(e) None of the respective classes of persons in this section designated shall agree, offer, solicit, or attempt to do any of the foregoing acts which are by this section prohibited: Provided, That the provisions of this regulation shall not apply to sales or deliveries of household soaps or cleansers if prior to May 24, 1943, such household soaps and cleansers had been received by a carrier other than a carrier owned or controlled by the seller for shipment to the purchaser.

§ 2 **Less than maximum prices.** Lower prices than those established by this regulation may be charged, paid, or offered.

§ 3 **To what products, transactions, and persons this regulation applies and the relation to other regulations**—(a) *Products covered by this regulation.* This regulation covers household soaps and cleansers.

(1) "Household soaps and cleansers" are defined in detail for the purpose of this regulation in section 11 .

(b) *Transactions covered by this regulation.* (1) All sales of houeshold soaps and cleansers by the manufacturers thereof [1]except sales to any agency of the United States of à household soap or cleanser which is not packaged and distributed by the manufacturer for household use.

(i) "Manufacturer" means a person who:

(*1*) Produces a household soap or cleanser; or

(*2*) Puts a household soap or cleanser into packages or cuts or stamps same into bars or cakes and sells said packages, bars or cakes under his own or another's brand name; or

(*3*) Owns the brand name of a household soap or cleanser; or

(*4*) Uses soap, soap products, soapless detergents or cleansers made by others as a raw material, and by the addition of other materials makes a finished product which is sold for detergent uses.

(*2*) All sales of household soaps and cleansers by a wholesaler to a retail food store.

(i) "Wholesaler" means a person other than the owner of a brand name who purchases a household soap or cleanser and resells it without substantially changing its form to a retail food store. "Wholesaler" includes a person who puts a household soap or cleaner, not produced by him, into packages, or cuts or stamps same into bars or cakes, and sells said packages, bars, or cakes unbranded. A branch unit of any manufacturer which performs a wholesale function is deemed a wholesaler.

((ii) "A retail food store" means a store in which 50 per cent or more of the gross dollar sales volume is from the sale of food products or the food department of any store.

(c) *Persons covered by this regulation.* (1) All manufacturers as above defined of household soaps and cleansers. (See section 5 for manufacturer's maximum prices.)

(2) All wholesalers of household soaps and cleansers who sell such commodities to retail food stores. (See section 6 for wholesaler's maximum prices.)

(d) *Applicability of the General Maximum Price Regulations.* The provisions of this regulation supersede the provision of the General Maximum Price Regulation with respect to sales and deliveries of household soaps and cleansers for which maximum prices are established by this regulation except for the provisions hereinafter indicated.

(1) Section 1499.5 (Transfers of business or stock in trade).

(2) Section 1499.11 (Base period records).

(3) Revised Supplementary Regulation No. 1. (8 FR 4978.) (Exclusion of certain sales to and by United States agencies and war contracts with United States and other governments.)

(e) *Geographical applicability.* The provisions of this regulation shall be applicable to the continental United States.

(f) *Export sales.* The maximum price at which a person may export household soaps and cleansers shall be determined in accordance with the provisions of the Second Revised Maximum Export Price Regulation issued by the Office of Price Administration. (8 FR 4132.)

(g) *Import sales.* The provisions of this regulation supersede the provisions of the Maximum Import Price Regulation and the General Maximum Price Regulation with respect to sales, deliveries, and transfers of imported household soaps and cleansers for which maximum prices are established by this regulation.

§ 4 **Products, transactions, and persons not covered by this regulation.** (a) The following products persons, and transactions are not subject to the terms and conditions of this regulation.

(1) Sales by a manufacturer of soap products which are not household soaps or cleansers. (For example, a sale of U.S.P. powdered or granulated castile soap to pharmaceutical manufacturers for use in the manufacture of tablets for medicinal use is not covered.)

(2) Sales of household soaps and cleansers by a wholesaler to any person other than a retail food store. (For example, sales by a wholesaler to a retail drug store or dry goods store are not covered.)

(3)[1] Sales by a manufacturer to any agency of the United States unless such sale is of a household soap or cleanser, packaged or distributed by the manufacturer for household use.

(b) Each of the transactions stated in paragraph (a) above are covered by the General Maximum Price Regulation and the maximum prices therefor shall be the

[1] Ed. Note—Remainder of sentence added by Amdt. 4 (effective 1-2-45).

[1] Ed. Note—Added by Amdt. 4 (effective 1-2-45).

seller's maximum price as determined under such General Maximum Price Regulation.

ARTICLE II—MAXIMUM PRICES AND TERMS OF SALE

§ 5 **Maximum prices for sales of household soaps and cleansers by manufacturers.** The maximum delivered prices before cash discount for carload quantities on sales of the household soaps and cleansers listed below by manufacturers thereof shall not exceed the prices listed therefor in the following table.

For instructions on methods of establishing maximum prices for unlisted household soaps and cleansers, for methods of establishing maximum prices on new size packs, and for sales of listed household soaps and cleansers in less than carload quantities see paragraphs (f), (g), and (h) at the end of this table.

(1)[1] The highest price (not exceeding the legal maximum) which the manufacturer charged for such commodity delivered by him to a purchaser of the same class during January 1943 or June 1944, or

(2)[1a] If the manufacturer made no delivery of such commodity during January 1943 or June 1944, his highest offering price (not exceeding the legal maximum) for delivery during either month to a purchaser of the same class.

(3)[2] If the manufacturer did not deliver or offer to deliver such commodity to a purchaser of the same class, during January 1943 or June 1944, the maximum price shall be the manufacturer's maximum price as determined under section 13 or 15 of this regulation, whichever is applicable.

(g) *How to compute your carload ceiling price on a new-size pack assembled in order to comply with War Production Board Limitation Order 317—Fibre Shipping Containers, dated March 23,* 1944. By "new-size pack" is meant a pack containing a number of units different than the number in any pack for which a maximum price has been established in the table of maximum prices listed above, or in the case of unlisted soap products, for which a maximum price has been established prior to March 23, 1944.

(1) Find your present ceiling price on the old pack containing the same product in the same size bar or package by reference to the table in paragraphs (a), (b), (c), (d), or (e) above, if your product is not listed in the foregoing table, by computation according to paragraph (f)

[1] ED. NOTE—Amended by Amdt. 4 (effecitve 1-2-45); formerly read: "The highest price which the manufacturer charged for such commodity delivered by him during January 1943 or".

[1a] ED. NOTE—Amended by Amdt. 4 (effective 1-2-45); formerly read: "If the manufacturer made no delivery of such commodity during January 1943 his highest offering price for delivery during that month."

[2] ED. NOTE—Amended by Amdt. 4 (effective 1-2-45); formerly read: "If the manufacturer did not deliver or offer to deliver such commodity during January 1943, the maximum price shall be the manufacturer's maximum price as determined under the General Maximum Price Regulation."

(a) *Maximum prices for bar or cake toilet soaps.*

Brand	*Size*	*Pack*	*Carload price per case before cash discount*
Camay	Bath	100	$8.924
Camay	Bath	50	4.492
Camay	Regular	144	8.633
Camay	Regular	72	4.365
Cashmere Bouquet	Regular	144	10.100
Crystal White	Regular	100	3.880
Crystal White	Regular	50	1.970
Fairy	Regular	72	3.250
Honeysuckle	Regular	144	5.580
Ivory	Guest	144	5.820
Ivory	Guest	72	2.959
Ivory	Large	100	8.924
Ivory	Large	50	4.511
Ivory	Medium	100	5.335
Kirks Coco Hardwater Castile	Regular	100	3.929
Lava	Large	100	8.003
Lava	Large	50	4.074
Lava	Regular	100	5.287
Lava	Regular	50	2.668
Lifebuoy	Regular	100	6.000
Lifebuoy	Regular	50	3.025
Lux	Bath	50	4.275
Lux	Regular	100	6.000
Lux	Regular	50	3.025
Octagon	Regular	144	5.820
Octagon	Regular	72	2.940
Palmolive	Bath	100	8.560
Palmolive	Bath	50	4.310
Palmolive	Regular	144	8.630
Palmolive	Regular	72	4.370
Sierra Pine	Regular	144	8.400
Sierra Pine	Regular	72	4.200
Swan	Large	100	8.960
Swan	Large	50	4.530
Swan	Regular	100	5.350
Sweetheart	Regular	100	5.820
Sweetheart	Regular	50	2.910
White King	Regular	100	4.320
White King	Regular	50	2.160
Woodbury	Regular	144	10.150

(b) *Maximum prices for bar laundry soaps.*

American Family	Large	80	$3.977
Crystal White	Large	80	3.250
Crystal White	Regular	100	3.490
Fels Naphtha	Regular	100	4.450
Kirkman Borax	Regular	100	4.250
Octagon	Large	100	4.120
Octagon	Small	120	2.760
P & G White Laundry	Large	100A	4.074
P & G White Laundry	Regular	100	3.735
P & G White Laundry	Large	80	3.250
P & G White Laundry	Regular	100B	3.492
Tag	Regular	72	3.60
White King	Large	80	3.250
White King	Regular	100	3.490

(c) *Maximum prices for cleansers and scouring powders.*

Brand	*Size (ounces)*	*Pack*	*Carload price per case before cash discount*
Bab-O	14	48	$4.387
Bab-O	14	24	2.194
Cameo Cleanser	14	48	2.780
Gold Dust	14	24	1.050
Kitchen Klenzer	13	40	2.000
Lighthouse	14	48	1.810
Octagon	13	48	1.790
Old Dutch	14	48	3.050
Sunbrite	13	48	2.016
Sunbrite	13	72	3.024

(d) *Maximum prices for package soaps.*

Brand	*Size (ounces)*	*Pack*	*Carload price per case before cash discount*
American Family Flakes	43	12	$5.141
American Family Flakes	21	24	4.947
American Family Flakes	8	60	4.947

Maximum prices for package soaps (Contd.).

Brand	Size (ounces)	Pack	Carload price per case before cash discount
Chipso Flakes or Granulated	21½	24	4.899
Chipso Flakes	8½	60	4.899
Dash	67	12	5.626
Dash	33½	24	5.626
Dreft	4	60	4.850
Dreft	8¾	24	4.850
Dreft	23½	9	4.753
Duz	62½	8	4.608
Duz	21½	24	4.899
Duz	8½	60	4.899
Ivory Flakes	12½	24	4.850
Ivory Flakes	5	60	4.850
Ivory Snow	12½	24	4.850
Ivory Snow	5	60	4.850
Ivory Snow	5	30	2.425
Kirkman Flakes	18	24	4.950
Kirkman Flakes	7	60	4.950
Kirkman Granulated	24	24	4.900
Kirkman Granulated with bar	24½	24	5.200
Klek	17½	24	4.270
Klek	8½	48	4.170
Lux Flakes	12½	20	4.100
Lux Flakes	5	100	8.250
Lux Flakes	5	50	4.150
Lux Flakes	28	9	4.000
Magic Washer	8	60	4.700
Magic Washer	25	24	4.700
Magic Washer	80	8	4.650
Octagon Granulated	24	24	4.900
Octagon Flakes	18	24	4.900
Oxydol	69	8	4.608
Oxydol	24	24	4.899
Oxydol	9	60	4.899
Par Granulated	23	24	4.925
Par Granulated	50	12	5.225
Par Granulated	69	8	4.575
Peets Granulated	24	24	4.350
Peets Granulated	33	24	5.630
Peets Granulated	36	24	5.630
Peets Granulated	70	12	5.630
Rinso	69	8	4.600
Rinso	24	24	4.900
Rinso	9	60	4.900
Scotch Granulated	64	8	4.030
Scotch Granulated	48	12	4.550
Scotch Granulated	31	24	5.670
Scotch Granulated	22	24	4.410
Scotch Granulated	8	48	3.700
Selox	17½	24	2.959
Selox	6½	48	2.037
Silver Dust	21½	24	5.190
Super Suds	69	8	4.610
Super Suds	61¾	8	4.610
Super Suds	24	24	4.900
Super Suds	21½	24	4.900
Super Suds	9	60	4.900
Super Suds	8¾	60	4.900
Twenty Mule Team Borax Soap Suds	22	24	4.500
White King Granulated	62	8	4.700
White King Granulated	46	12	5.250
White King Granulated	28	24	6.290
White King Granulated	22	24	5.030
White King Granulated	9	48	4.260

(e) *Maximum prices for washing powders.*

Brand	Size (ounces)	Pack	Carload price per case before cash discount
Gold Dust	36	12	$1.750
Gold Dust	10	60	2.450
Gold Dust	6½	100	2.600
Grandma	39	12	1.601
Grandma	8¾	100	2.474
Kirkman	40	12	1.850
Kirkman	12	50	2.100
Mermaid	44	24	3.940
Mermaid	10	48	2.160
Octagon	40	20	2.720
Octagon	13	60	2.330
Octagon	6½	120	2.760
OK	14½	60	2.280
OK	7¼	120	2.280
Star	8¾	100	2.474

below. All "new-size packs" must be priced with reference to a pack for which a maximum price was established in one of the paragraphs of the table of maximum prices listed above or, in the case of unlisted soap products, for which a maximum price had been established under paragraph (f) above, prior to March 23, 1944. You may not determine a maximum price for one "new-size pack" on the basis of the maximum price previously determined for another "new-size pack."

(2) If you had two or more sizes of old packs containing the same product in the same size bar or package, select the ceiling price of the old pack containing the number of units most nearly equal to the number of units in the new-size pack; if the number of units in the new pack is exactly midway between the number of units in two different old packs, select the ceiling price of the larger old pack.

(f) The maximum price for any household soap or cleanser not listed in the table above, whether branded or unbranded, packaged, cut or bulk, shall be:

(3) Divide the ceiling price of the old pack selected under (1) and (2) above, by the number of bars or packages contained in such old pack, carrying out your answer to the nearest thousandths of a cent.

(4) Multiply this last figure by the number of bars or packages contained in the new pack and round to the nearest tenth of a cent. This figure is your ceiling price for the new pack.

Example: Product sold in old packs of 50 and 100: new-size pack will be 150. Price of 100 pack, $8.075, and of the 50 pack, $4.063.

Divide price of old pack containing the number of units nearest to 150 (the 100 unit pack): $8.075, by number of units contained (100): $.08075.

Multiply $.08075 by 150 to get ceiling price for new-size pack: $12.1125 rounded to nearest tenth of a cent of $12.113.

The above method of computation is not required to be used as the only method of computation. Any method may be used so long as the result obtained as the maximum price per case for a given new-size pack is not greater than that which would be obtained by use of the above method. For example, manufacturers who have customarily used list prices higher than the maximum prices set forth in the table above and used discounts from those list prices to arrive at their ceiling prices may continue to do so, adjusting their list prices accordingly, so long as the result thereby obtained does not lead to a higher maximum price per case of new-size pack than the maximum price would be obtained by the method described here.

You must mark on the exterior of any changed-size pack the number of bars or packages it contains. In addition, when delivering a new-size pack for the first time to a wholesaler who resells to retail food stores, you must indicate on your invoices to such buyers which items are new-size packs by marking the letter "N" before such items on the invoice; at the same time you will state on your invoice.

"N" before an item indicates a new-size pack, whose resale ceiling price is to be computed in accordance with the enclosed instructions.

You will enclose with your invoice the following:

Instructions — How to compute your ceiling price on a new-size pack assembled in compliance with War Production Board Limitation Order No. 317—Fibre Shipping Containers, dated March 23, 1944, when selling to retail food stores. (1) Find your ceiling price on the old pack containing the same product in the same size bar or package.

(2) If there are two or more sizes of old packs containing the same product in the same size bar or package, select the ceiling price of the old pack containing the number of units most nearly equal to the number of units in the new-size pack; if the number of units in the new pack is exactly midway between the number of units in two different old packs, select the ceiling price of the larger old pack.

(3) Divide the ceiling price of the old pack selected under (1) and (2) above, by the number of units contained in such old pack, carrying out your answer to the nearest hundredths of a cent.

(4) Multiply this last figure by the number of bars or packages contained in the new pack and round to the nearest cent. The answer is your ceiling price for the new pack.

Example: You sold product in old packs of 50 and 100. New-size pack will be 150. Your ceiling price of the 100 pack is $8.33 f.o.b. warehouse sale, and $8.51 service sale.

To obtain your ceiling price on an f.o.b. warehouse sale of the new-size pack, divide $8.33 (the price of the old pack containing the number of units most nearly equal to the number of units in the new-size pack) by the number of units in the old pack (100): $0.0833. Multiply $0.0933 by the number of units in the new-size pack (150): $12.495, rounded to $12.50.

To obtain your ceiling price on a service sale of the new-size pack divide $8.51 by 100 and multiply by 150 or $12.765 rounded to $12.77.

(h) *Less-than-carload quantities*—(1) *Packs other than new-size packs.* When sales of the household soaps and cleansers listed in the table above are made in less-than-carload quantities, their respective maximum prices may be increased by a sum equal to the seller's differential for such less-than-carload quantity in effect in January 1943. (For example, if in January 1943 the seller's carload delivered price for X brand before cash discount was $4.90 per case and his price for 100 cases, delivered, was $5.00 per case, he may, upon a sale of 100 cases, add 10 cents per case to the price listed in the table above.)

(2) *New-size pack price in less-than-carload quantities.* If you had established a maximum price or prices per case in less-than-carload quantities differing from the price per case in carload quantities in accordance with (1) above, such less-than-carload price or prices per case in the new-size pack shall be determined similarly to the procedure described in paragraph (g) above for carload prices, that is, by dividing the maximum price or prices per case of the old pack in less-than-carload quantities by the number of bars or packages it contains and multiplying the figure or figures thus obtained by the number of bars or packages contained in the new-size pack, rounding to the nearest full cent.

Where you had more than one less-than-carload price depending upon the number of old packs sold at one time, the quantity brackets used to determine the price applicable to a sale of a given quantity shall be expressed in the total number of bars or packages involved rather than the total number of cases. Purchasers of such quantities of bars or packages shall pay the price per case applicable to such quantity brackets expressed in the number of bars or packages, regardless of the number of cases involved.

Example:

OLD PACK PRICES—100 BARS TO CASE

C. L. ..... $5.00 per case
L. C. L.:
10 or more cases (10,000 bars or more) ..... 5.10 per case
50 to 99 cases (5,000 bars to 10,000) ..... 5.20 per case
Less than 50 cases (Up to 5,000 bars) ..... 5.30 per case

N EW-SIZE PACK PRICES—150 BARS TO CASE

C. L. ..... $7.50 per case
L. C. L.
67 or more cases (10,000 bars or more) ..... 7.65 per case
34 to 66 cases (5,000 bars to 10,000) ..... 7.80 per case
Less than 34 cases (up to 5,000 bars) ..... 7.95 per case

Thus, a purchaser of 40 new-size packs, having a total of 6,000 units, would be entitled to the price per case for sales of more than 5,000 units, or $7.80.

(i) Each manufacturer shall continue to allow the cash and quantity discounts allowed by him during January 1943 which were most favorable to the buyer.

Redemption or premium plans offered by the manufacturer wherein the manufacturer offers to redeem a tag, wrapper, coupon or other evidence of a purchase of his product, for something of value, whether cash, commodity, "trading stamp" or similar right, or a service, shall be deemed a cash or quantity discount to the buyer within the meaning of this section whether the buyer purchases directly from the manufacturer or indirectly through a wholesaler, distributor, or retailer.

§ 6 **Maximum prices for sales of household soaps and cleansers by wholesalers to retail food stores.** The maximum prices of household soaps and cleansers listed in the table below when sold to a retail food store by a wholesaler who has purchased such product in carload quantities shall be, for an f.o.b. warehouse sale, the price therefor listed in column A of the table and, for a service sale, the delivered price therefor listed in column B of the table. None of the maximum prices established in this section 6 may be increased by reason of the extension of credit to the buyer by the seller.

For instructions concerning the maximum price of the products listed in the table below when sold to a retail food store by a wholesaler who has purchased the product sold on a less than carload basis, for instructions concerning additions of surcharges for remote deliveries,

(a) *Maximum prices for bar or cake toilet soaps.*

Brand	*Size*	*Pack*	*Column A F.o.b warehouse price per case*	*Column B Service price per case*
Camay	Bath	100	$9.21	$9.40
Camay	Bath	50	4.63	4.73
Camay	Regular	144	8.91	9.10
Camay	Regular	72	4.50	4.60
Cashmere Bouquet	Regular	144	10.42	10.64
Crystal White	Regular	100	4.00	4.09
Crystal White	Regular	50	2.03	2.08
Fairy	Regular	72	3.35	3.42
Honeysuckle	Regular	144	5.76	5.88
Ivory	Guest	144	6.00	6.13
Ivory	Guest	72	3.05	3.12
Ivory	Large	100	9.23	9.42
Ivory	Large	50	4.66	4.76
Ivory	Medium	100	5.51	5.63
Kirks Coco Hardwater Castile	Regular	100	4.05	4.14
Lava	Large	100	8.26	8.43
Lava	Large	50	4.20	4.29
Lava	Regular	100	5.45	5.57
Lava	Regular	50	2.75	2.81
Lifebuoy	Regular	100	6.19	6.32
Lifebuoy	Regular	50	3.12	3.19
Lux	Bath	50	4.41	4.50
Lux	Regular	100	6.19	6.32
Lux	Regular	50	3.12	3.19
Octagon	Regular	144	6.00	6.13
Octagon	Regular	72	3.03	3.10
Palmolive	Bath	100	8.83	9.02
Palmolive	Bath	50	4.44	4.54
Palmolive	Regular	144	8.91	9.10

(a) *Maximum prices for bar or cake toilet soaps (cont'd).*

Brand	Size	Pack	Column A F.o.b warehouse price per case	Column B Service price per case
Palmolive	Regular	72	4.51	4.60
Sierra Pine	Regular	144	8.67	8.85
Sierra Pine	Regular	72	4.33	4.43
Swan	Large	100	9.23	9.42
Swan	Large	50	4.66	4.76
Swan	Regular	100	5.51	5.63
Sweetheart	Regular	100	6.00	6.13
Sweetheart	Regular	50	3.00	3.07
White King	Regular	100	4.46	4.55
White King	Regular	50	2.23	2.28
Woodbury	Regular	144	10.47	10.70

(b) *Maximum prices for bar laundry soaps.*

American Family	Large	80	$4.10	$4.19
Crystal White	Large	80	3.35	3.42
Crystal White	Regular	100	3.60	3.68
Fels Naphtha	Regular	100	4.59	4.69
Kirkman Borax	Regular	100	4.38	4.48
Octagon	Large	100	4.25	4.34
Octagon	Small	120	2.85	2.91
P & G White Laundry	Large	100A	4.20	4.29
P & G White Laundry	Regular	100	3.85	3.94
P & G White Laundry	Large	80	3.35	3.43
P & G White Laundry	Regular	100B	3.60	3.68
Tag	Regular	72	3.71	3.79
White King	Large	80	3.35	3.43
White King	Regular	100	3.60	3.68

(c) *Maximum prices for cleansers and scouring powders.*

Bab-O	14	48	$4.62	$4.72
Bab-O	14	24	2.31	2.36
Cameo Cleanser	14	48	3.13	3.20
Gold Dust	14	24	1.11	1.13
Kitchen Klenzer	13	40	2.11	2.15
Lighthouse	14	48	1.91	1.95
Octagon	13	48	1.89	1.93
Old Dutch	14	48	3.21	3.29
Sunbrite	13	48	2.12	2.17
Sunbrite	13	72	3.19	3.26
American Family Flakes	43	12	$5.30	$5.42
American Family Flakes	21	24	5.10	5.21
American Family Flakes	8	60	5.10	5.21
Chipso Flakes or Granulated	21½	24	5.05	5.16
Chipso Flakes	8½	60	5.05	5.16
Dash	67	12	5.80	5.93
Dash	33½	24	5.80	5.93
Dreft	4	60	5.00	5.11
Dreft	8¾	24	5.00	5.11
Dreft	23½	9	4.90	5.01
Duz	62½	8	4.75	4.86
Duz	21½	24	5.05	5.16
Duz	8½	60	5.05	5.16
Ivory Flakes	12½	24	5.00	5.11
Ivory Flakes	5	60	5.00	5.11
Ivory Snow	12½	24	5.00	5.11
Ivory Snow	5	60	5.00	5.11
Ivory Snow	5	30	2.50	2.56
Kirkman Flakes	18	24	5.11	5.22
Kirkman Flakes	7	60	5.11	5.22
Kirkman Granulated	24	24	5.05	5.16
Kirkman Granulated with bar	21½	24	5.36	5.48
Klek	17½	24	4.40	4.50
Klek	8½	48	4.30	4.39
Lux Flakes	12½	20	4.23	4.32
Lux Flakes	5	100	8.51	8.69
Lux Flakes	5	50	4.28	4.37
Lux Flakes	28	9	4.13	4.22

for instructions on the method of establishing maximum prices for sales of household soaps and cleansers not listed in the table below, and for the method of establishing maximum prices for sales of household soaps and cleaners in new-size packs, see paragraphs (f), (g), (h) and (j) at the end of this table.

(f) *Instructions.* (1)[1] The maximum selling price of the products listed in the table above, when sold to a retail food store by a wholesaler who purchased the product sold on a less than carload basis, may be increased by a sum equal to the difference between the manufacturer's carload maximum price per case and the manufacturer's actual selling price per case for the quantity purchased. (For example, if the manufacturer lists a price of $5.00 per case before cash discount for delivered carload quantities of X brand soap and the wholesaler actually buys only 100 cases for which he pays $5.15 per case delivered before cash discount, he may add 15 cents per case on this hundred-case quantity to the maximum price established for X brand soap in the table above.)

(2)[2] When a wholesaler purchases any of the products listed in the table above on a pool-car basis and incurs an additional expense of transportation from the pick-up point to his usual receiving point, such wholesaler, on sales to retail food stores, may increase the maximum selling price of the product by a sum equal to the additional transportation expense, not to exceed the difference between the manufacturer's maximum carload price and the manufacturer's maximum less-than-carload price for the quantity purchased. (For example, if the pool-car cost per case to the wholesaler is $5.00 and it costs him 10 cents per case to have it brought from the unloading point to his usual receiving point, he may add 10 cents per case to the maximum selling price as listed above, provided the manufacturer's delivered price for such l.c.l. quantity is not less than $5.10 per case.)

(g) *Instructions.* A wholesaler making a delivery in a remote area or zone for which he customarily added a surcharge for delivery in March 1942 may continue to add an amount equal to such customary surcharge to the maximum prices established in column B of the table above. (For example, if the wholesaler customarily made a special charge of 5 cents a case for delivering any soap product listed in the table above to any retail food store located more than 25 miles outside the city limits, he may add 5 cents per case to the maximum prices established in column B of the table above for his deliveries of such soap product to any retail food store more than 25 miles outside the city limits.)

(h) *Instructions.* Upon a sale of either a listed or unlisted household soap or cleanser by a branch unit of any manufacturer which performs a wholesaler func-

[1] Ed. Note—Designation "(1)" inserted by Amdt. 4 (effective 1-2-45).

[2] Ed. Note—Added by Amdt. 4 (effective 1-2-45).

(d) *Maximum prices for package soaps.*

Magic Washer	8	60	4.85	4.95
Magic Washer	25	24	4.85	4.95
Magic Washer	80	8	4.80	4.90
Octagon Granulated	24	24	5.05	5.16
Octagon Flakes	18	24	5.05	5.16
Oxydol	69	8	4.75	4.86
Oxydol	24	24	5.05	5.16
Oxydol	9	60	5.05	5.16
Par Granulated	23	24	5.08	5.19
Par Granulated	50	12	5.30	5.51
Par Granulated	69	8	4.72	4.82
Peets Granulated	24	24	4.49	4.58
Peets Granulated	33	24	5.81	5.93
Peets Granulated	36	24	5.81	5.93
Peets Granulated	70	12	5.81	5.93
Rinso	69	8	4.75	4.86
Rinso	24	24	5.05	5.16
Rinso	9	60	5.05	5.16
Scotch Granulated	64	8	4.16	4.25
Scotch Granulated	48	12	4.69	4.79
Scotch Granulated	31	24	5.85	5.97
Scotch Granulated	22	24	4.55	4.65
Scotch Granulated	8	48	3.82	3.90
Selox	17½	24	3.05	3.12
Selox	6½	48	2.10	2.15
Silver Dust	21½	24	5.35	5.47
Super Suds	69	8	4.76	4.86
Super Suds	61½	8	4.76	4.86
Super Suds	24	24	5.05	5.16
Super Suds	21½	24	5.05	5.16
Super Suds	9	60	5.05	5.16
Super Suds	8¼	60	5.05	5.16
Twenty Mule Team Borax Soap Suds	22	24	4.64	4.74
White King Granulated	62	8	4.85	4.95
White King Granulated	46	12	5.42	5.53
White King Granulated	28	24	6.50	6.63
White King Granulated	22	24	5.19	5.30
White King Granulated	9	48	4.39	4.49

(e) *Maximum prices for washing powders.*

Brand	*Size*	*Pack*	*Column A F.o.b warehouse price per case*	*Column B Service price per case*
Gold Dust	36	12	$1.84	$1.89
Gold Dust	10	60	2.58	2.64
Gold Dust	6½	100	2.74	2.80
Grandma	39	12	1.69	1.72
Grandma	8¾	100	2.61	2.66
Kirkman	40	12	1.95	1.99
Kirkman	12	50	2.21	2.26
Mermaid	44	24	4.15	4.24
Mermaid	10	48	2.28	2.33
Octagon	40	20	2.87	2.93
Octagon	13	60	2.46	2.51
Octagon	6½	120	2.91	2.97
OK	14½	60	2.40	2.46
OK	7¼	120	2.40	2.46
Star	8¾	100	2.61	2.66

tion the invoice price (not in excess of the manufacturer's maximum price) to the branch unit shall be deemed to be the actual cost of the household soap or cleanser.

(i) *Instructions.* (1), Unless a specific maximum price or pricing method has been established by the Administrator under section 14 of this regulation,[2] the maximum prices for a sale of an unbranded or bulk household soap or cleanser shall be

(i) Upon an f.o.b. warehouse sale of bar toilet soap, bar laundry soap or package soap, the actual cost to the seller before cash discount multiplied by 1.04.

(ii) Upon an f.o.b. warehouse sale of a cleanser, scouring powder or washing powder, the actual cost to the seller before cash discount multiplied by 1.06.

(iii) Upon a service sale of bar toilet soap, bar laundry soap, or package soap, the actual cost to the seller before cash discount, multiplied by 1.06, plus, in the case of a delivery to a remote area for which a delivery surcharge was customarily added in March 1942, an amount equal to such customary surcharge.

(iv) Upon a service sale of a cleanser, scouring powder or washing powder, the actual cost to the seller before cash discount multiplied by 1.08, plus, in the case of a delivery to a remote area for which a delivery surcharge was customarily added in March 1942, an amount equal to such customary surcharge.

(2) Unless a specific maximum price or pricing method has been established by the Administrator under section 14 of this regulation,[2] the maximum price for a brand of household soap or cleanser (other than a bulk soap or cleanser) not listed in the table above shall be at the seller's option either:

(i) The seller's maximum price as determined under the General Maximum Price Regulation, or

(ii) The seller's actual cost multiplied by the appropriate mark-up factor in subparagraph (1) above.

Option (i) above shall be inapplicable to household soaps or cleansers not sold at any time between March 1, 1942 and December 28, 1944.[1]

(j) *Instructions—How to compute your ceiling price on a new-size pack assembled in compliance with War Production Board Limitation Order No. 317—Fibre Shipping Containers, dated March 23,* 1944. By "new-size pack" is meant a pack containing a number of units differing from any pack for which a maximum price had been established in one of the tables of maximum prices listed above or in the case of unlisted soap products, for which a maximum price had been established prior to March 23, 1944.

(1) Find your present ceiling price on the old pack containing the same product in the same size bar or package by reference to paragraphs (a), (b), (c), (d), or (e) of the table above if the product is listed therein, or by computation according to paragraph (i) above if the product is not listed in the foregoing table. All "new-size packs" must be priced with reference to a pack for which a maximum price was established in one of the paragraphs of the table of maximum prices listed above or, in the case of an unlisted soap product, for which a maximum price had been established under paragraph (i) above prior to March 2, 1944. You may not determine a maximum price for one "new-size pack" on the basis of the maximum price previously determined for another "new-size pack."

[1] Ed. Note—Preceding sentence added by Amdt. 4 (effective 1-2-45).

[2] Ed. Note—Preceding part of sentence inserted by Amdt. 4 (effective 1-2-45).

(2) If you had two or more sizes of old packs containing the same product in the same size bar or package, select the ceiling price of the old pack containing the number of units most nearly equal to the number of units in the new-size pack; if the number of units in the new pack is exactly midway between the number of units in two different old packs, select the ceiling price of the larger old pack.

(3) Make any necessary adjustments to this price under paragraphs (f) and (g) above, if applicable.

(4) Divide the ceiling price obtained by (1) and (3), or (2) and (3) above, by the number of bars or packages contained in the old pack selected under (1) and (2) above and carry out the answer to the nearest hundredth of a cent.

(5) Multiply this last figure by the number of bars or packages contained in the new pack and round the answer to the nearest cent. This figure will be your ceiling price for the new-size pack.

Example: You sold product in old packs of 50 and 100; new size packs will be 150. Your ceiling prices for the old pack containing the number of units nearest to 150 (the 100 unit pack) was $8.33 f. o. b. warehouse and $8.51 service. To obtain your f. o. b. warehouse price divide the price of the largest size pack ($8.33) by the number of units contained (100): $0.0833. Multiply $0.0833 by number of units contained in new pack (150): $12.495, rounded to $12.50.

To obtain your ceiling price for a service sale, divide price of the 100 unit pack ($8.51) by 100: $0.0851. Multiply $0.0851 by 150: $12.765, rounded to $12.77.

ARTICLE III—MISCELLANEOUS

§ 7 **Petitions for amendment.** Any person seeking any modifications of this regulation may file a petition for amendment in accordance with the provisions of Revised Procedural Regulation No. 1.

§ 7a **Manufacturers' adjustments.** If the cost of labor and materials used in producing a household soap or cleanser has increased so substantially that the manufacturer's maximum price therefor is susceptible of adjustment under the standards of this section, and if the loss of his production would force his customers to resort to higher priced sources of supply for the same or a substitute household soap or cleanser, he may file an application for adjustment of his maximum price for the product. The application shall be submitted to the Rubber, Chemicals and Drugs Price Branch, Office of Price Administration, Washington 25, D. C., and shall contain the information hereinafter specified.

(a) *Information to be submitted.* (The information called for by subdivisions (1) through (6) below shall be submitted for all sizes of the product even though an adjustment is not asked on all sizes.)

(1) Brand names and description of product including size, weight, pack, quantitative formula, and anhydrous soap content.

(2) Established maximum selling prices of product to each class of purchasers and full terms of sale; description of each class of purchasers and market areas of sales; volume of sales to each class of purchaser during last calendar or fiscal year, in dollars and in cases.

(3) Sales volume of the above designated commodity in units and dollars for the last complete calendar or fiscal year, for the latest periods of the current year for which information is available, and estimated future sales in units for the next three months. Also total over-all dollar sales for the last complete calendar or fiscal year and for the latest periods of the current year for which information is available.

(4) Direct labor and material cost (and average freight out) per case for the product currently, including:

(i) Names and addresses of suppliers of material and itemization of material cost including name of material, grade, current invoice cost per pound, extra transportation cost per pound, if any, quantity used per case of product and current cost per case of product.

(ii) Packaging material cost per case and names and addresses of the suppliers thereof.

(iii) Direct labor cost per case and, if wage rates have been increased since October 3, 1942, a full explanation of the reason for the increase and a showing that any wage rate subject to approval by the War Labor Board has been approved by that Board.

(iv) Average freight paid by seller per case.

(5) Indirect factory cost per case currently and for the year 1942 (or the fiscal year ending nearest to December 31, 1942) such as: indirect labor, factory supplies, repairs and maintenance of building, machinery and equipment, insurance, property taxes, depreciation at normal rates on plant and equipment actually used in manufacture, purchased utility services, and other items commonly associated with factory operation. Indirect factory costs shall be broken down at least in the detail customarily used by the manufacturer, and the method of allocating such costs to the product must be shown.

(6) General administrative and selling expenses per case currently and for the year 1942 (or the fiscal year ending nearest to December 31, 1942) such as: executive and administrative salaries, office expense, commissions, advertising, and similar items but not including income or excess profit taxes, charges to war reserves, or reserves for contingencies. General administrative and selling expenses shall be broken down at least in the detail customarily used by the manufacturer and the method of allocating such expenses to the product must be shown.

(7) Profit and loss statements, balance sheets, and analyses of surplus for the years 1936-1939, inclusive, on OPA Form A, Annual Financial Report, or applicant's own prepared statements and the same information for the most recent full fiscal or calendar year, and for the latest periods of the current year for which complete information is available. *Provided, however,* That if applicant seeks adjustment of his maximum price per unit to a price no higher than unit cost of labor, materials, average freight out, and indirect factory cost he need not include in the application the profit and loss statements, balance sheets and analyses of surplus for the years 1936-1939.

Such financial data shall cover applicant's over-all operations, or in the event applicant is a parent, subsidiary or affiliate of other corporations or business units, the over-all operations of the entire investment enterprise. The filing of the financial data designated in this item is optional in certain cases. Should the applicant prefer and so request, this information for years prior to 1943 will be obtained by the Office of Price Administration directly from the Bureau of Internal Revenue if available. If the applicant has submitted any such data on Office of Price Administration Report Forms A or B for certain periods, he may so state and omit those periods in his present report.

(8) The proposed selling prices (before cash discount) for carload and less than carload quantities and terms of sale.

(9) The names and addresses of the chief competitive sellers, the name and a description of the commodity sold by each (which is the same as or a substitute for the product on which a price adjustment is requested) and their current selling prices so far as applicant is able to determine.

(b) *Amount of adjustment.* No adjustment will be made under this section 7a unless the Price Administrator finds that a price increase is necessary to aid in securing low-priced supply. Furthermore, any such adjustment shall ordinarily be limited as set forth below: (As used below: "Over-all profits" means over-all aggregate dollar profits, adjusted for changes in investment and before deduction of income and excess profits taxes, of applicant or of the entire investment enterprise).

(1) *Primary limitations.* Adjustment shall in the first instance be limited to:

(i) An amount sufficient to make the adjusted price per unit equal to direct labor and material cost per unit, plus average freight out per unit, plus an amount equal to indirect factory cost per unit currently or during the year 1942 (whichever is lower), where applicant's current over-all profits on an annual basis are favorable as judged by his own or the industry's experience during the years 1936-1939, inclusive (or other appropriate peace time base period).

(ii) An amount sufficient to make the adjusted price per unit equal to direct labor and material cost per unit, plus average freight out per unit, plus an amount equal to indirect factory cost and administrative and selling expenses per unit currently or during the year 1942 (whichever is lower), where applicant's current over-all profits on an annual basis

are normal as judged by his own or the industry's experience during the years 1936-1939, inclusive (or other appropriate peace time base period). However, any increase in excess of that permitted by (i) above shall not ordinarily exceed the least amount which will cause his current over-all profits on an annual basis to be favorable as judged by his own or the industry's experience during such base period.

(iii) An amount sufficient to make the adjusted price per unit equal to direct labor and material cost per unit, plus average freight out per unit, plus an amount equal to indirect factory cost and administrative and selling expenses per unit currently or during the year 1942 (whichever is lower), plus an adequate margin of profit per unit, where applicant's current over-all profits on an annual basis are unfavorable as judged by his own or the industry's experience during the years 1936-1939, inclusive (or other appropriate peacetime base period). However, any increase in excess of that permitted by (i) above shall not ordinarily exceed the least amount which will cause his current over-all profits on an annual basis to be favorable as judged by his own or the industry's experience during such base period.

(2) *Special limitation.* Any adjustment granted hereunder shall be further limited to an amount equal to the difference between applicant's maximum price and the selling price of the next higher competitive seller able to supply applicant's customers with the same product or an equivalent substitute. In no case will an adjustment be granted to a price above the level at which the bulk of that type of product is sold in the same market area.

(c) *Orders issued under this section.* The Price Administrator may authorize or deny by order the maximum prices requested or any modification thereof. He may require in appropriate cases a compensatory decrease in the maximum prices for another product or products manufactured by applicant.

In cases where an adjustment is granted to a manufacturer, the Administrator may also adjust the maximum prices for sales by resellers.

Any order issued hereunder may be amended or revoked at any time.

§ 8 **Records and reports.** Every manufacturer or wholesaler of household soaps and cleansers subject to this regulation shall after May 24, 1943, keep for inspection by the Office of Price Administration for so long as the Emergency Price Control Act of 1942, as amended, remains in effect, complete and accurate records of each purchase or sale, showing the date thereof, the name and address of the buyer and the seller, and the price contracted for or paid. In addition every manufacturer or wholesaler of household soaps and cleansers subject to this regulation shall keep for inspection by the Office of Price Administration for so long as the Emergency Price Control Act of 1942, as amended, remains in effect, the records showing how the maximum prices for bulk, unbranded, or unlisted soaps or cleansers were computed.

§ 8a **Billing and marking requirements.** Any manufacturer or wholesaler selling either bulk or unbranded household soaps or cleansers must indicate clearly on an invoice or notice furnished the buyer prior to payment by him whether the product is a bar toilet soap, bar laundry soap, cleanser or scouring powder, package soap, or washing powder, as defined in section 11 below. In addition, any wholesaler who packages soap and cleanser from bulk shall indicate thereon, "This is a bar toilet soap (or bar laundry soap, scouring powder or cleanser, package soap or washing powder) packaged from bulk." This section, however, shall not be applicable to sales of household soaps and cleansers to the United States or any agency thereof.

§ 9 **Enforcement.** Persons violating any provision of this regulation are subject to the criminal penalties, civil enforcement actions, license suspension proceedings, and suits for treble damages provided for by the Emergency Price Control Act of 1942, as amended.

§ 9a **Licensing.** The provisions of Licensing Order No. 1, licensing all persons who make sales under price control, are applicable to all sellers subject to this regulation or schedule. A seller's license may be suspended for violations of the license or of one or more applicable price schedules or regulations. A person whose license is suspended may not, during the period of suspension, make any sale for which his license has been suspended.

§ 10 **Federal and state taxes.** (a) There may be added to the maximum prices established by this regulation the amount of any tax upon the sale or delivery of household soaps and cleansers imposed by a statute of the United States or statute or ordinance of a state or subdivision thereof if, and only if:

(1) The statute or ordinance requires or permits the seller to state the tax separately from the purchase price, and

(2) The tax is separately stated and collected by the seller.

§ 11 **Definitions.** (a) As used in this regulation, the term:

"Anhydrous soap content" means the anhydrous soap content as determined by the official methods for testing soap set out in Federal Specification P-S-536A for Soap and Soap Products; General Specifications for Sampling and Testing. This document can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C.

"Bulk soap or cleanser" means any soap, soap product, soapless detergent or cleanser bought or sold by a manufacturer or wholesaler, in barrels, large sacks or bags or other sizable quantities, said commodity not having been cut into a bar or cake of a size or type customarily sold to household consumers or packaged in a container of a size or type customarily sold to household consumers.

"Carload quantity" means any quantity of household soaps or cleansers upon which the manufacturer thereof allowed a carload quantity discount in March 1942.

"Criminal penalties" means a fine of not more than $5,000 or imprisonment for not more than one year or both.

"Differ in weight"[1] means a difference in marked weight in the case of packaged soaps or cleansers which have a marked weight or in packaged weight in the case of packaged soaps or cleansers which have no marked weight or in cut weight in the case of bar soaps or cleansers.

(1) "Marked weight" means the net weight of the contents thereof as marked on a package of soap or cleanser which is not in bar form.

(2) "Packed weight" means the net weight of the contents of a package of soap or cleanser not in bar form immediately after packaging.

(3) "Cut weight" means the weight of a bar of soap or cleanser immediately after being cut, formed or stamped into bars.

"Differ in quality" [1] means:

(1) A difference in serviceability per unit weight in the use for which the soap or cleanser is customarily intended, or

(2) A difference in the percentage of anhydrous soap contained.

"Improve in quality" means:

(1) An increase in the percentage of anhydrous soap contained, or

(2) An increase in the serviceability per unit weight in the use for which the soap or cleanser is customarily intended.

"Market area" means the geographical area in which a manufacturer has delivered or offered for current delivery a particular household soap or cleanser during the thirty-day period ending July 17, 1942.

"Purchaser of the same class" refers to the practice adopted by the seller in setting different prices for commodities for sales to different purchasers or kinds of purchasers (for example, wholesalers, retailers, institutions, government agencies, individual consumers) or for purchasers located in different areas or for different quantities or grades or under different conditions of sale.

"Discount" means any reduction of list price allowed by a seller to a buyer upon a quantity or cash purchase.

"F. O. B. warehouse sale" means a sale made f.o.b. the seller's premises.

"Household soap and cleansers" means:

(1) Any listed commodity, that is, any commodity for which a dollars and cents maximum price is established by this regulation, or

(2) Any branded or unbranded, cut, packaged, or bulk, soap, soap product, soapless detergent or cleanser similar in type and function to a listed commodity and classified in one of the following categories:

[1] Ed. Note—Added by Amdt. 4 (effective 1-2-45).

(i) "Bar toilet soap," meaning any bar or cake soap sold for toilet use.

(ii) "Bar laundry soap," meaning any bar soap sold for laundry use, including but not limited to white or yellow bar laundry soap.

(iii) "Cleanser and scouring powder," meaning any soap product containing powdered abrasive material with or without alkali builders.

(iv) "Package soap," meaning any fine fabric or general laundry soap in the form of chips, flakes, granules, powder or similar forms with base anhydrous soap content of 50 per cent or more, or any soapless detergents which have the same use and purpose as such soaps.

(v) "Washing powders," meaning any soap powders with base anhydrous soap content of less than 50 per cent.

"Manufacturer" means a person who:

(1) Produces a household soap or cleanser;

(2) Puts a household soap or cleanser into packages or cuts or stamps same into bars or cakes and sells said packages, bars or cakes under his own or another's brand name; or

(3) Owns the brand name of a household soap or cleanser; or

(4) Uses soap, soap products, soapless detergents or cleansers made by others as a raw material, and by the addition of other materials makes a finished product which is sold for detergent uses.

"Offering price" means that price at which the seller would have been willing to sell the product upon a bona fide offer to purchase.

"Person" means an individual, corporation, partnership, association, or any other organized group of persons, or legal successor or representative of any of the foregoing, and includes the United States or any agency thereof, or any other government, or any of its political subdivisions or any agency of any of the foregoing.

"Retail food store" means a store in which 50 per cent or more of the gross dollar sales volume is from the sale of food products or the food department of any store.

"Service sale" means a sale in which the seller delivers the goods to a point other than his own premises.

"Suits for treble damages" means if any person selling household soaps and cleansers violates this violation, the person who buys such commodity for use or consumption other than in the course of trade or business may bring an action either for $50 or for treble the amount by which the consideration exceeded the applicable maximum price, whichever is the greater, plus reasonable attorney's fees and costs as determined by the court. If any person selling such commodity violates this regulation and the buyer is not entitled to bring suit or action, the Administrator may bring such action on behalf of the United States.

"Surcharge for delivery" means a charge made for a delivery in a remote area which is over and above the seller's usual delivery charge in a less remote area.

"Wholesaler" means a persons other than the owner of a brand name who purchases a household soap or cleanser and resells it without substantially changing its form to a retail food store. "Wholesaler" includes a person who puts a household soap or cleanser, not produced by him, into packages, or cuts or stamps same into bars or cakes, and sells said packages, bars, or cakes unbranded. A branch unit of any manufacturer which performs a wholesaler function is deemed a wholesaler.

Article IV[1]—New or Changed Products

§ 12 **What this article prohibits.** Except as provided below, no manufacturer of a household soap or cleanser, regardless of the terms of any contract, lease or other obligation, may sell, offer to sell, or deliver to any person a new or changed household soap or cleanser. A new or changed household soap or cleanser is:

(a) A household soap or cleanser which differs in weight or quality from any household soap or cleanser delivered or offered for current delivery by such manufacturer in the market area where such person is located during the thirty day period ending July 17, 1942, or

(b) A household soap or cleanser not delivered or offered for current delivery by such manufacturer in the market area where such person is located during the thirty-day period ending July 17, 1942, or

(c) A household soap or cleanser which differs in weight or quality from one having the same brand name which was delivered or offered for current delivery by such manufacturer in the market area where such person is located during the thirty-day period ending July 17, 1942.

§ 13 **Applications for permission to sell a new or changed product.** (a) Any manufacturer seeking to sell, offer to sell or deliver a household soap or cleanser whose sale and delivery is prohibited by section 12 above, shall prior to any such sale, offer to sell, or deliver, file an application with the Office of Price Administration, Washington, D. C., for approval of a proposed maximum price for the commodity. This application shall contain all facts regarding the commodity to be priced which are required by the form set forth in section 16 (that form may be used if desired).

(b) A commodity for which the approval of a maximum price is required under this section 13 may not be sold or offered for sale or delivered until a price has been approved by the Office of Price Administration.

§ 14 **Action by the Administrator.** (a) If the Administrator finds that the sale of the new or changed household soap or cleanser by the manufacturer as well as by any reseller thereof would not lead to manipulative practices which would defeat or impair the purposes of the Emergency Price Control Act of 1942, as amended, nor lead to evasions of applicable price regulations, he may authorize the sale, offer to sell, and delivery of such new or changed household soap or cleanser and will, either in connection therewith or otherwise, establish maximum prices which are in line with the level of maximum prices otherwise established by this regulation.

(b) The Administration may, at any time, approve, disapprove, or revise maximum prices proposed or established under this section so as to bring them into line with the level of maximum prices otherwise established by this regulation, and may, by order, establish maximum prices or pricing methods for the resale of any new or changed household soap or cleanser.

(c) Manufacturers of new or changed products to whom permission to sell or deliver such products has been given by the Administrator pursuant to the provisions of this section, may at any time be required to submit reports, records, and accounts to the National Office of the Office of Price Administration, Washington, D. C., subject to the approval of the Budget Bureau in accordance with hte Federal Reports Act of 1942.

§ 15 **Applicability of this article.** (a) Section 12 of this regulation shall not be applicable to sales of a new or changed household soap or cleanser where:

(1) The buyer is an agency of the United States, or

(2) The sale is of bulk soap or bulk cleanser, or

(3) The sale is of a completely soapless detergent, or

(4) The sale is of a cleanser or washing powder having an anhydrous soap content of 20 per cent or less, and the cleanser or washing powder had been delivered or offered for current delivery in any market area in the United States during the thirty-day period ending July 17, 1942 or

(5) The sale involves a household soap or cleanser as to which an exception has been granted under Commdoity Practices Regulation No. 1.

(b) The manufacturer's maximum price for a new or changed household soap or cleanser included in paragraph (a) of this section shall be the maximum price as determined under the General Maximum Price Regulation, or the price, if any, established in connection with an exception under Commodity Practices Regulation No. 1.

(c) Section 12 of this regulation shall not be applicable to sales of a changed household soap or cleanser where the changed product is improved in quality or

(*Turn to Page* 209)

[1] Ed. Note—Added by Amdt. 4 (effective 1-2-45).

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Specifications*

Chip Soap (P-S-566a)

Chip soap shall be a soap in chip form made from soda and fats or fatty acids, without rosin, as free as possible from water and all substances other than true soap, of a light uniform color, free from disagreeable odor, and suitable for laundering and other washing, cleaning and scouring processes with soft water, when the presence of alkaline salts is not desirable.

Moisture and matter volatile at 105° C. shall not exceed 10 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 4 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.2 per cent. Matter insoluble in water shall not exceed 1.0 per cent. Anhydrous soap shall be not less than 85 per cent. Titer of the mixed fatty acids prepared from the soap must be not less than 39° C. No rosin shall be present.

Cake Grit Soap (P-S-571a)

Cake grit soap shall be of the following types as specified: Type A—for fine work, such as glass and enamel; Type B—for scouring and scrubbing.

Type A—

Moisture and matter volatile at 105° ±2° C. shall not exceed 4 per cent. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 1 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 88 per cent nor more than 93 per cent. The insoluble siliceous material shall consist of not less than 90 per cent of ground feldspar. All of the insoluble siliceous material shall pass through a No. 100 sieve, and the residue retained on a No. 200 sieve shall not exceed 5 per cent. Sugar, and foreign matter shall not be present. Anhydrous soda soap shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° ±2° C., insoluble siliceous material, and alkali as alkaline salts. The cakes shall be well compressed and of a satisfactory degree of friability, which shall not be materially affected or lessened after immersion in or contact with water. The material shall not scratch glass or enameled surfaces. The material shall be unscented and shall be of a light gray or white color.

Type B—

Moisture and matter volatile at 105° ±2° C. shall not exceed 5 per cent. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 3 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall not be less than 75 nor more than 85 per cent. The insoluble siliceous material shall be mainly quartz, and it all must pass through a No. 100 sieve. Sugar, and foreign matter shall not be present. Anhydrous soda soap shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° ±2° C., insoluble siliceous material, and alkali as alkaline salts. The cakes shall be well compressed and of a satisfactory degree of friability, which shall not be materially affected or lessened after immersion in or contact with water. The material shall be unscented and shall be of a light gray or white color.

Hand Grit Soap (P-S-576a)

Hand-grit soap shall be a cake soap containing clean, finely divided insoluble siliceous matter, as free as possible from water, uncolored, mildly perfumed unless otherwise specified, and well compressed in firm, smooth cakes.

Matter volatile at 105° C. shall not exceed 25 per cent. Total alkalinity of matter insoluble in alcohol (alkaline salts), calculated as sodium carbonate (Na_2CO_3), shall not exceed 1 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 25 nor more than 35 per cent. The insoluble siliceous material shall not yield more than 2 per cent of residue retained on a No. 100 sieve and not

ONLY the essential requirements of these government specifications have been extracted in our summary. Copies of the complete specifications, including details as to packaging, methods of analysis, etc., are available through the U. S. Federal Specifications Board. The specifications listed are the latest versions as of the date of compilation of this edition of the Blue Book. Readers are cautioned, however, that further changes are being made periodically, and that the latest amended versions of all specifications should be consulted in filling government orders.

*General and detailed requirements as specified in the Standard Stock Catalogue of the U. S. Federal Specifications Board.

more than 10 per cent of residue retained on a No. 200 sieve. Sugar, and foreign matter shall not be present. Rosin shall not exceed 5 per cent. Anhydrous soap shall be not less than 35 per cent. The percentage of moisture and volatile matter will be computed on the basis of the soap as received, but all other constituents will be calculated to the basis of material containing 25 per cent of matter volatile at 105° C. Unless otherwise specified, each cake shall weigh not less than 8 ounces nor more than 16 ounces.

Laundry Chip Soap (Rosin Type) (P-S-581)

Laundry chip soap shall be a well-made, uniformly mixed soap in chip form, made from soda and fats or fatty acids, with no excessive proportion of rosin and a moderate amount of matter insoluble in alcohol, shall be of a uniform color, and shall be suitable for use with moderately hard water for general cleaning and laundry purposes. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on dishes or other objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller.

The material shall conform to the detail requirements listed in the table above.

Detail Requirements for Laundry Chip Soap

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105° C.	15.0	....
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	12.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	.5	....
Free acid, calculated as oleic acid	.5	....
Matter insoluble in water	1.0	....
Chloride, calculated as sodium chloride (NaCl)	1.0	....
Rosin	20.0	....
Anhydrous soap	....	72.0

Granulated Laundry Soap (Rosin Type) (P-S-583)

Laundry granulated soap shall be a well-made, uniformly mixed soap in granulated or powdered form, made from soda and fats or fatty acids, with no excessive proportion of rosin and a moderate amount of matter insoluble in alcohol, shall be of a uniform color, and shall be suitable for use with moderately hard water for general cleaning and laundry purposes. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on dishes or other objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller. Detail requirements listed in table below.

Liquid Laundry Soap (P-S-586)

Liquid soap for laundry use shall be a clear solution of pure potash (or potash and soda) soap with or without glycerol or alcohol and containing not less than 12 per cent by weight of a volatile organic solvent or a mixture of such solvents. It shall yield a clear solution on mixing with soft water, shall quickly form a satisfactory lather, shall have no injurious effect and leave no objectionable odor on fabrics. Materials washed with this soap shall have, after drying, a soft feel and not appear more boardy or stiff than when washed with soft water.

The material shall be a clear solution, shall yield a clear, homogeneous solution on mixing with soft water, shall quickly form a satisfactory lather, and shall leave no objectionable odor on fabric. Total anhydrous soap shall be not less than the equivalent of 24 per cent potash soap. Total matter insoluble in alcohol shall not exceed 0.5 per cent. Free alkali, calculated as potassium hydroxide (KOH), shall not exceed 0.05 per cent. Chloride, calculated as potassium chloride (KCl) shall not exceed 0.3 per cent. Total matter insoluble in water shall not exceed 0.1 per cent. Volatile organic solvent shall be not less than 12 per cent. All constituents shall be calculated on the basis of the original sample. Fabric washed with the liquid soap shall show no more shrinkage or felting than occurs with similar fabric washed with soft water at the same temperature. Colored materials when washed with this soap shall not fade more than when washed the same number of times at the same temperature with soft water alone.

Ordinary Bar Laundry Soap (P-S-591a)

Ordinary laundry bar soap shall be a well-made, uniformly mixed laundry or common soap, made from soda and fats or fatty acids, with no excessive proportion

Detail Requirements for Granulated Laundry Soap

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105° C.	10.0	....
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	14.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	.5	....
Free acid, calculated as oleic acid	.5	....
Matter insoluble in water	1.0	....
Chloride, calculated as sodium chloride (NaCl)	1.0	....
Rosin	20.0	....
Anhydrous soap	....	75.0
Residue retained on a No. 12 sieve	2.0	....

of rosin and a moderate amount of matter insoluble in alcohol, and shall be suitable for use with moderately hard water for general cleaning and laundry purposes.

Odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The materials shall not leave an objectionable odor on dishes or other objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an air-tight, closed container for comparison with samples from deliveries.

Moisture and matter volatile at 105° C. shall not exceed 36 per cent. The sum of free alkali or free acid, total matter insoluble in alcohol and sodium chloride, shall be not less than 2 per cent nor more than 10.0 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.5 per cent. Free acid, calculated as oleic acid, shall not exceed 0.5 per cent. Matter insoluble in water shall not exceed 1 per cent. Chloride calculated as sodium chloride (NaCl), shall not exceed 1.0 per cent. Rosin shall not exceed 25 per cent. Anhydrous soap shall be not less than 52 per cent. The percentage of moisture and volatile matter will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of an assumed moisture and volatile matter content of 36 per cent.

Powdered Laundry Soap (P-S-596a)

Powdered soap shall be a soap in powdered form made from soda and fats or fatty acids, without rosin, as free as possible from water and all substances other than true soap, of a light uniform color, free from disagreeable odor, and suitable for laundering and other washing, cleaning and scouring processes with soft water, when the presence of alkaline salts is not desirable.

Moisture and matter volatile at 105° C. shall not exceed 6 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 4 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.2 per cent. Matter insoluble in water shall not exceed 1.0 per cent. Anhydrous soap shall be not less than 89 per cent. Titer of the mixed fatty acids prepared from the soap shall be not less than 39° C. Residue retained on a No. 12 sieve shall not exceed 1.5 per cent. Rosin, none. The percentage of moisture and volatile matter will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 6 per cent of volatile matter.

Liquid and Paste Soap for Automobile, Floor and General Cleaning (P-S-598)

Soap covered by this specification shall be of two types. Type I—Liquid. Type II—Paste. Type I shall be a uniform liquid soap made solely from whole neutral vegetable oils and potash. Type II shall be a uniform gel or paste soap made solely from whole neutral vegetable oils and potash.

Type I shall be soluble in soft water and when diluted with water shall act as a cleaner. The flash point shall be above its boiling point. It shall not contain any solvents or oils that will damage floor surfaces. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II. Paste soap.—The material shall be a uniform translucent, firm gel or paste of a yellowish-white to brownish-yellow color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water. *Moisture (by distillation method, using toluol instead of xylol)*—shall not exceed 55 per cent. Deliveries which yield more than 55 per cent of moisture shall be rejected without further test. The soap shall dissolve readily to give a 0.15- to 0.2 per cent solution, using distilled water at 15.5 to 20° C. (60° to 68° F.). The solution so prepared shall yield a good suds. A solution of the soap in soft water shall act as a cleaner and shall not damage sur-

Detail Requirements (P-S-598)

	Type I		*Type II*	
	Min.	*Max.*	*Min.*	*Max.*
Moisture (toluol distillation method) (per cent)	..	..	..	..
Total matter insoluble in alcohol (per cent)	..	0.5	..	1.0
Free alkali, calculated as potassium hydroxide (KOH) (per cent)	..	.05	..	.1
Free acid, calculated as oleic acid (per cent)	..	.1	..	.2
Alkaline salts, calculated as potassium carbonate (K_2CO_3) (per cent)	..	.1	..	.2
Matter insoluble in distilled water (per cent)	..	.1	..	.2
Chloride, calculated as potassium chloride (KCL) (per cent)	..	.3	..	.5
Unsaponified and unsaponifiable matter (per cent)	..	.4	..	.8
Anhydrous soap, calculated as potash soap (per cent)	20	..	43	..
Total sodium compounds, calculated as NA_2O (per cent)	..	.2	..	.5
Glycerol (per cent)	1.8	..	4	..
Iodine number (WIJS) of mixed fatty acids derived from the soap	100	150	100	150
Acid number of mixed fatty acids derived from the soap	195	205	195	205
Rosin	..	None	..	None
Sugar	..	None	..	None

faces on which it is used. When specified, each bidder shall submit with his proposal a 1-quart sample of the soap that he proposes to furnish, packed in a screw-top glass jar, to show odor, color, and consistency. The sample so furnished shall be kept for comparison with samples from deliveries. The material of each type shall not become rancid or otherwise deteriorate when kept in a closed container.

The material shall conform to the detail requirements for the type indicated as listed in the accompanying table. Percentages are by weight. (See Pg. 191.)

Computation (type II only).—The percentage of moisture shall be computed and reported by the testing laboratory on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture content of 50 per cent.

Soap; Low-Titer (P-S-600)

Low-titer soap shall be of the following types and classes:

Type I—Bar form

Type II—Other forms

Class A—Granular

Class B—Powdered

Class C—Flake

The soap shall have a uniform color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on dishes or other objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller. When specified, each bidder shall submit with his proposal a sample of the material that he proposes to furnish, to show color, odor, and condition.

Low-titer soap shall conform to detail requirements as listed in the table above.

Detail Requirements for Low Titer Soap

	Type I		*Type II*	
	Max.	*Min.*	*Max.*	*Min.*
Matter volatile at 105° C. (per cent)	35.0	..	7.0	..
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride (per cent)	2.0	..	4.0	..
Free alkali, calculated as sodium hydroxide (NaOH) (per cent)	0.1	..	0.2	..
Free acid, calculated as oleic acid (per cent)	.1	..	.2	..
Matter insoluble in water (per cent)	.5	..	.5	..
Rosin	None	..	None	..
Sugar	None	..	None	..
Unsaponified matter (per cent)	1.0	..	1.0	..
Anhydrous soap (per cent)	..	61.0	..	87.0
Titer of the mixed fatty acids prepared from the soap	28° C	..	28° C	..
Iodine number (Wijs) of the mixed fatty acids prepared from the soap	105.0	74.0	105.0	74.0
Acid number of the mixed fatty acids prepared from the soap	205.0	180.0	205.0	180.0
Residue retained on a No. 12 sieve (class B only) (per cent)	..	..	1.5	..

Potash Linseed Oil Soap, Liquid and Paste, for Floor and General Cleaning (P-S-603)

Potash-linseed-oil soap shall be of two types. Type I—Liquid. Type II—Paste. Type I shall be a uniform liquid soap made solely from whole neutral raw linseed oil and potash. Type II shall be a uniform, translucent, firm gel or paste soap made solely from whole neutral raw linseed oil and potash.

Type I shall be soluble in soft water and when diluted with water shall act as a cleaner. The flash point shall be above its boiling point. It shall not contain any solvents or oils that will damage floor surfaces. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II—Paste soap shall be a uniform translucent firm gel or paste soap of a yellowish-white to greenish-brown color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water. *Moisture (by distillation method, using toluol instead of Xylol)* shall not ex-

Detail Requirements for Potash Linseed Soap

	Type I		*Type II*	
	Min.	*Max.*	*Min.*	*Max.*
Moisture (toluol distillation method) (per cent)	..	..	..	55
Total matter insoluble in alcohol (per cent)	..	0.5	..	1.0
Free alkali, calculated as potassium hydrate (KOH) (per cent)	..	.05	..	.1
Free acid, calculated as oleic acid (per cent)	..	.1	..	.2
Alkaline salts, calculated as potassium carbonate (K_2CO_3) (per cent)	..	.1	..	.2
Matter insoluble in distilled water (per cent)	..	.1	..	.2
Chloride, calculated as potassium chloride (KCL) (per cent)	..	.3	..	.5
Unsaponified and unsaponifiable matter (per cent)	..	.4	..	1.0
Anhydrous soap, calculated as potash soap (per cent)	20	..	43	..
Total sodium compounds, calculated as NA_2O (per cent)	..	.2	..	.5
Glycerol (per cent)	1.8	..	4	..
Iodine number (WISJ) of mixed fatty acids derived from the soap	175	..	175	..
Acid number of mixed fatty acids derived from the soap	190	205	190	205
Sugar	..	None	..	None

ceed 55 per cent. Deliveries which yield more than 55 per cent of moisture shall be rejected without further test. The soap shall dissolve readily to give a 0.15- to 0.2-per cent solution, using distilled water at 15.5° to 20° C. (60° to 68° F.). The solution so prepared shall yield a good suds. A solution of the soap in soft water shall act as a cleaner and shall not damage floor surfaces. When specified, each bidder shall submit with his proposal a 1-quart sample of the soap that he proposes to furnish, packed in a screw-top glass jar, to show odor, color, and consistency. The sample so furnished shall be kept for comparison with samples from deliveries. The material of each type shall not become rancid or otherwise deteriorate when kept in a closed container.

The material shall conform to the detail requirements for the type indicated as listed in the accompanying table. Percentages are by weight.

Computation (type II only).—The percentage of moisture shall be computed and reported by the testing laboratory on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture content of 50 per cent.

Soap Powder (P-S-606a)

Soap powder shall be a uniform mixture of soap and sodium carbonate, and/or other alkaline salts in powdered form. It shall be readily soluble in tepid water, shall contain no free caustic alkali or inert fillers, and shall be free from objectionable odor.

Anhydrous soap shall be not less than 15 per cent. Alkaline salts, calculated as sodium carbonate (Na_2CO_3) shall be not less than 30 per cent. The sum of anhydrous soap and alkaline salts, calculated as sodium carbonate shall be not less than 55 per cent.

Salt Water Soap (P-S-611a)

Salt-water soap shall be a soap well made from pure coconut oil fatty acids, pure palm kernel oil fatty acids, or a mixture thereof, and soda. It shall be entirely soluble in both sea water and fresh water and shall make a suitable lather. The soap shall be light in color and free from objectionable odor. The material shall conform to the detail requirements listed in the table above.

Detail Requirements for Salt Water Soap

		Maximum	*Minimum*
Moisture and matter volatile at 105°C.	per cent	55.0	..
Total matter insoluble in alcohol	per cent	3.0	2.0
Free alkali, calculated as sodium hydroxide (NaOH)	per cent	.5	..
Chloride, calculated as sodium chloride (NaCl)	per cent	3.0	2.5
Anhydrous soap	per cent	..	40.0
Matter insoluble in water	per cent	.5	..
Acid number of the mixed fatty acids prepared from the soap		..	240
Sugar, and foreign matter		None	..
Rosin		None	..

The percentage of moisture and volatile matter shall be computed, and reported by the testing laboratory, on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 55%.

White Floating Toilet Soap (P-S-616a)

Floating toilet soap shall be a cake soap without objectionable odor, thoroughly saponified, and so prepared as to float on water.

Moisture and matter volatile at 105° C. shall not exceed 34 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 2.0 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Chloride, calculated as sodium chloride (NaCl), shall not exceed 1 per cent. Matter insoluble in water shall not exceed 0.2 per cent. Anhydrous soap shall be not less than 62 per cent. Acid number of the mixed fatty acids prepared from the soap, shall be not less than 212. Rosin, sugar and foreign matter shall not be present. The percentage of moisture and volatile matter will be computed on the basis of the soap as received, but all other constituents will be calculated on an assumed moisture and volatile matter content of 34 per cent.

Liquid Toilet Soap (P-S-618a)

Liquid toilet soap shall be a clear solution of pure vegetable oil potash (or potash and soda) soap with or without glycerol or alcohol, suitably perfumed, and free from all foreign matter. It shall quickly form a satisfactory lather and have no injurious effect and leave no objectionable odor on the skin.

The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave any objectionable odor on the skin or other surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water. Unless otherwise specified each bidder shall submit with his proposal a one-quart sample, placed in a screw-top glass jar, to show odor, color, and consistency. The sample so furnished shall be kept for comparison with samples from deliveries.

The material shall be a clear solution, free from objectionable odor, other than from coconut oil, and shall form a satisfactory lather. Total anhydrous soap shall be not less than the equivalent of 15 per cent potash soap. Total matter insoluble in alcohol shall not exceed 0.5 per cent. Free alkali calculated as potassium hydroxide (KOH) shall not exceed 0.05 per cent. Chloride calculated as potassium chloride (KCl) shall not exceed 0.3 per cent. More than traces of sulphates and sugar shall not be present. All constituents shall be calculated on the basis of the original sample.

Milled Toilet Soap (P-S-621a)

Milled toilet soap shall be a high grade, milled cake soap as free as possible from water, either colored or uncolored, and mildly perfumed unless otherwise specified, thoroughly saponified, well compressed in firm, smooth cakes of a size and shape specified in the contract. It should lather freely when used with cold, soft water.

Moisture and matter volatile at 105° C. shall not exceed 15 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 1.7 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Matter insoluble in water shall not exceed 0.4 per cent. Unsaponified saponifiable matter shall not exceed 0.3 per cent. Anhydrous soap shall be not less than 83 per cent. Sugar and foreign matter shall not be present. Rosin, none. The percentage of moisture and matter volatile will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 15 per cent of volatile matter.

Powdered Toilet Soap (for (Dispensers) (P-S-626a)

Powdered toilet soap for use in dispensers shall be a thoroughly saponified soap in powdered form, made from soda and fats; shall be uncolored and mildly perfumed, unless otherwise specified; shall be a uniform, free-flowing, noncaking powder; and shall lather freely when used with cold soft water.

The material shall be a uniform powder and shall be freeflowing and noncaking when used in a dispenser conforming to type III or IV of Federal Specification FF-D-396. It shall lather freely when used with soft water at room temperatures. Shall be mildly perfumed, unless otherwise specified. If desired, shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries.

Shall be uncolored, unless otherwise specified. Matter volatile at 105°±2° C. shall not exceed 6 per cent. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 2.0 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Matter insoluble in water shall not exceed 0.2 per cent. Anhydrous soda soap shall be not less than 91 per cent. Rosin, sugar, and foreign matter shall not be present. The material shall meet the following fineness requirements:

Retained on—	*Minimum Per Cent*	*Maximum Per Cent*
No. 12 sieve.....	—	1.5
No. 45 sieve.....	50	—
No. 100 sieve.....	90	—

Toilet Soap-Borax Compound (for Dispensers) (P-S-628)

Soap and borax compound for use in dispensers shall be a uniform mixture of a thoroughly saponified soap and borax ($Na_2B_4O_7 \cdot 10\ H_2O$) shall be free from added coloring matter and mildly perfumed, unless otherwise specified; shall be a uniform free-flowing, noncaking powder, when used in a dispenser conforming to Type III or IV of Fed. Spec. FF-D-396. It shall lather freely when used with soft water at room temperature. Anhydrous soda soap shall be not less than 23 per cent and not more than 27 per cent. Borax, calculated as $Na_2B_4O_7 \cdot 10\ H_2O$, shall be not less than 72 per cent and not more than 77 per cent. The pH of a 1 per cent solution by weight of the material in distilled water shall be not less than 9.0 and not more than 10.2 at 25° C., using a glass electrode. Matter insoluble in water shall not exceed 0.2 per cent. Sugar, and foreign matter shall not be present. Rosin none. The material shall meet the following fineness requirements:

Retained on—	*Minimum Per Cent*	*Maximum Per Cent*
No. 12 sieve.....	—	0
No. 45 sieve.....	5	—
No. 100 sieve.....	45	—

Caustic Soda for Cleaning (P-S-631a)

Caustic soda shall be of but one grade. It shall be furnished in airtight containers (13-ounce cans or drums) in flake, ground, or lump form, as specified in the invitation for bids. It shall conform to the following detail requirements:

Sodium hydroxide (NaOH) shall be not less than 95 per cent.

Carbonate, calculated as sodium carbonate (Na_2CO_3), shall not be more than 2 per cent.

Laundry Soda (Washing Soda) (P-S-641a)

Laundry soda shall be a white uniform powder composed of sodium carbonate and sodium bicarbonate. It shall conform to the following detail requirements:

	Maximum Per Cent	*Minimum Per Cent*
Total alkalinity, calculated as Na_2O	43	39
Sodium bicarbonate ($NaHCO_3$)	50	35
Sodium carbonate (Na_2CO_3)	50	35
Matter insoluble in water	.1	—

Cleaning Compound (P-C-565) Soap—Abrasive Type for painted surfaces

The product is to be without objectionable odor, and not harmful to the hands. The seller must label each container with directions for use. The product must be capable of being applied either with a damp cloth or sponge. It is to be a uniform soft paste, meeting the following requirements.

Matter volatile at 105°C. shall not exceed 65% by weight. It shall contain not more than 0.1% by weight of free alkali calculated as NaOH. It shall contain not more than 0.5% by weight free acid calculated as oleic acid. Alkaline salts calculated as Na_2CO_3 shall not exceed 5% by weight. Insoluble siliceous matter shall not be less than 25% nor more than 50% by weight. All of the insoluble siliceous matter shall pass through a No. 80 sieve; and

not more than 15% shall be retained on a No. 200 sieve. Anhydrous soap shall be not less than 3.5% by weight.

A special test is provided for determination of abrasive properties. A thin film of the compound is spread over a clear microscopic slide. Another slide is placed over the film and the two slides pressed together, using a slight pressure, and rubbing one slide over the other with a rotary motion. The slides when wiped clean of the compound shall not be scratched.

Grease-Cleaning Compound Solvent-Emulsion Type (P-C-576)

Grease-cleaning compound shall be furnished in two types, Type I, non-phenolic, and Type II, phenolic, The compound shall be uniform liquid and shall be suitable for the purpose intended.

Type I, nonphenolic

Flash point shall be not less than 200° F. (open cup). The compound shall have a neutralization number of not more than 8 (mg. of KOH to neutralize 1 gm. of compound). The compound shall have no free alkali. The pour point shall be not more than 35°F. The loss in weight shall be not more than 10 per cent after a 24-hour period. Shall be free from phenols. Physical and performance tests covering stability of emulsion, solubility in kerosene and in water, etc., are also provided.

Type II, phenolic

As above except that the material is to contain not less than 15 per cent and not more than 25 per cent phenols by volume, and must pass a phenol (C_6H_5OH) limitation test.

Mechanics' Hand Detergent (P-D-221)

Detergent for mechanics' use shall be of two types, Type I—hand grit paste soap and Type II—hand scouring powder. (Note—specification currently being revised to provide for a third type incorporating a vegetable abrasive.) Detergent for mechanics' use shall be a uniform mixture in paste or powder form, as specified, and shall be satisfactory for removing oil, grease, paint, printing inks and other occupational soil from the hands of automobile mechanics, machinists, and other operatives without harmful effect on the skin.

Type I—Hand grit paste soap shall be a uniform paste. The odor shall not be objectionable. If desired, shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries.

Matter volatile at 105 *to* 110° *C.* shall not exceed 55 per cent. Deliveries which yield more than 55 per cent of volatile matter shall be rejected without further test. Alkaline salts, calculated as sodium carbonate (Na_2CO_3), shall be not more than 2 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.02 per cent. Free acid, calculated as oleic acid, shall not exceed 0.2 per cent. Anhydrous soap, calculated as soda soap, shall be not less than 8 per cent nor more than 16 per cent. Insoluble siliceous matter shall be not less than 25 per cent nor more than 50 per cent and shall conform to the following fineness requirements:

Retained on—	*Min.*	*Max.*
	%	%
No. 40 sieve	..	0
No. 60 sieve	10	20
No. 80 sieve	30	45
No. 100 sieve	35	55
No. 200 sieve	60	..

The material shall retain the consistency of a firm paste after keeping in a closed container for 6 hours at 30° to 32° C. (86° to 89.6° F.). The material shall not deteriorate when kept in an airtight container. The percentage of matter volatile at 105° to 110° C. will be computed on the basis of the grit paste soap as received, but all other constituents will be calculated to the basis of material containing 50 per cent of matter volatile at 105° to 110° C.

Type II — Hand scouring powder shall be a uniform, free-flowing powder. The odor shall not be objectionable. If desired, shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries. *Matter volatile at* 105° *to* 110° *C.* shall not exceed 5 per cent. Deliveries which yield more than 5 per cent of volatile matter shall be rejected without further test.

Alkaline salts, calculated as sodium carbonate (Na_2CO_3), shall be not less than 2 per cent nor more than 5 per cent. The alkaline salts shall consist of borax, sodium carbonate, or a mixture thereof. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Free acid, calculated as oleic acid, shall not exceed 0.2 per cent. Anhydrous soap, calculated as soda soap, shall be not less than 17 per cent. Insoluble siliceous matter shall be not less than 60 per cent nor more than 76 per cent and shall conform to the following fineness requirements:

Retained on—	*Max*
	%
No. 60 sieve	5
No. 100 sieve	30
No. 200 sieve	60

Special Detergents (P-D-236)

Detergents for aluminumware shall be of the following types and classes:

Type I. Detergent for use in mechanical dishwashing machines.

Type II. Detergent for manual cleaning.

Class A. Non - abrasive cleaner.

Class B. Abrasive cleaner.

The material used in Type I detergent shall be suitable for use in mechanical dishwashing machines and shall be substantially uniform in appearance throughout. It shall be free from objectionable odor, and shall dissolve readily in tepid water. Cleaner may be supplied in either powder, granule or chip form pro-

vided it conforms to the detailed requirements.

The material used in Type II, Class A non-abrasive cleaner shall be suitable for any type of manual washing where abrasiveness is not desired, and shall be substantially uniform in appearance throughout. It shall be free from objectionable odor, and shall dissolve readily in tepid water. Cleaner may be supplied in either powder, granule or chip form provided it conforms to the detailed requirements.

The material used in Class B abrasive cleaner shall be suitable for any uses requiring a manual cleaner where soil adheres too tenaciously for non-abrasive cleaners. It may be supplied in the form of a solid, a paste, or a combination of any two of the above. Combinations of metal wools and soaps may be supplied. The cleaner shall be free from objectionable odor and from poisonous or irritant chemicals.

Each bidder shall submit with his proposal for Type I and Type II. Class A, materials a sample of the material that he proposes to furnish. Each sample shall be labeled to show the amount recommended for softening 10 gallons of water containing 10 grains (171 p.p.m.) of hardness, calculated as $CaCO_3$, and may be used by the inspector or purchasing officer in the recommended proportions for determining the performance or cleaning ability of the material.

Samples from deliveries shall be subjected to similar tests. If specified by the purchasing officer, the material, when used in the proportions recommended by the bidder, shall be at least equal in cleaning ability to a standard sample furnished, or indicated, by the purchasing officer.

Type I. Detergent for use in mechanical dishwashing machines shall conform to the following detail requirements: *Turbidity* — When tested by the method described in paragraph F-2b (1), (See complete specifications) the weight of the precipitate obtained shall be less than 20 mg. for 250 ml of solution. *Foaming*—When tested by the method described in paragraph F-2c, no foam or suds shall be detected. *Corrosion*—when tested by the method described in paragraph F-2f (1), the detergent solution shall be without visible action on bare or anodic oxide-coated aluminum alloy. *Water-Softening Capacity*—A suds which is stable for not less than 5 minutes shall be formed when the material is tested as described in paragraph F-2d. *Hydrogen Ion Content and Buffer Index*—When tested by the method outlined in paragraph F-2g, the detergent solution shall have an initial pH of not less than 10.0, and shall have a pH of not less than 9.0 after the addition of the specified amount of hydrochloric acid solution. *Cleaning Ability*—The material shall clean satisfactorily when tested as indicated in paragraph F-2a. The relative cost of the detergent shall be determined from the product of the delivered price per pound of the detergent and the number of pounds of the detergent required to treat 1000 gallons of water containing 10 grains (171 p.p.m.) per gallon of hardness, calculated as $CaCO_3$. The amount of detergent used in this computation shall be that required to give the concentration used in paragraphs F-2b (1) and F-2d of this specification.

Type II, Class A. Non-Abrasive Cleaner shall conform to the following detail requirements:

Turbidity—The turbidity of the cleaner solution shall conform to the test described in paragraph F-2b (2). (See complete Specification.) *Corrosion*—When tested by the method described in paragraph F-2f (2), the cleaner solution shall be without visible action on bare or anodic oxide-coated aluminum alloy. *Water Softening Capacity* — A suds which is stable for not less than 5 minutes shall be formed when the material is tested as described in paragraph F-2e. *Hydrogen Ion Content*—The pH of a 1 per cent solution by weight of the cleaner in distilled water shall not exceed 10.5 when measured as indicated in paragraph F-2h. *Cleaning Ability*—The material shall clean satisfactorily when tested as indicated in paragraph F-2a. *Relative Cost*—The relative cost of the cleaner shall be determined from the product of the delivered price per pound of the cleaner and the number of pounds of the cleaner required to treat 1000 gallons of water containing 10 grains (171 p.p.m.) per gallon of hardness, calculated as $CaCO_3$. The amount of cleaner used in this computation shall be that required to give the concentration used in paragraphs F-2b (2) and F-2e of this specification.

Type II, Class B. Abrasive Cleaner shall conform to the following detail requirements: *Abrasion* —When tested by the method described in paragraph F-2i (See complete Specification) the cleaner shall produce no undesirable scratching. *Corrosion*—When tested by the method described in paragraph F-2f (3), the cleaner shall be without visible action on bare or anodic oxide-coated aluminum alloy. *Rinsibility*—When tested by the method described in paragraph F-2j, the cleaner shall be removed completely from a glass plate. *Cleaning Ability* —The material shall clean satisfactorily when tested as indicated in paragraph F-2a.

Sweeping Compound (P-C-591a)

Sweeping compound shall consist of a uniform mixture of the materials as specified for each type and shall be artificially colored or uncolored as specified by the purchaser. If desired, shall conform to the color of a sample mutually agreed upon by buyer and seller. The material shall not stain flooring surfaces on which it is used.

Type I. — Sawdust- Sand-Mineral Oil.

Odor shall not be objectionable. If desired shall conform to the odor of a sample mutually agreed upon by buyer and seller. The material shall not give off flammable vapors when tested according to paragraph F-2b. Matter volatile

at 105-110° C. shall be not more than 10 per cent by weight. Refined mineral oil (such as paraffin oil) shall be not less than 15 per cent and not more than 20 per cent by weight. Clean, fine, sharp sand or feldspar sand shall be not less than 35 per cent and not more than 50 per cent by weight. Not more than 1 per cent by weight of sand (based on sand content) shall be retained on a No. 20 sieve when tested according to paragraph F-2k. Fatty oils shall not be present. The remainder shall be finely ground sawdust. Not more than 1 per cent by weight of sawdust (based on sawdust content) shall be retained on a No. 8 sieve when tested according to paragraph F-2k.

Type II — Sawdust-Sand-Water wax emulsion.

Odor shall not be objectionable. If desired shall conform to the odor of a sample mutually agreed upon by buyer and seller. The material shall not give off flammable vapors when tested according to paragraph F-2b. Matter volatile at 105-110° C. shall be not more than 12 per cent by weight. Clean, fine, sharp sand, or feldspar sand shall be not less than 60 per cent and not more than 70 per cent by weight. Not more than 1 per cent by weight of sand (based on sand content) shall be retained on a No. 20 sieve when tested according to paragraph F-2k. Finely ground sawdust shall be not less than 5 per cent and not more than 10 per cent by weight. Not more than 1 per cent by weight of sawdust (based on sawdust content) shall be retained on a No. 8 sieve when tested according to paragraph F-2k. The remainder shall be waxes and emulsifying agents.

Liquid Automobile Polish (P-P-546)

Shall be suitable for use on lacquer, baked enamel and synthetic enamel finishes. Shall have no objectionable odor. Shall be a stable aqueous emulsion containing a suitable abrasive in suspension. The polish shall be a free-flowing fluid that can readily be applied with a cotton cloth and shall spread easily. Non-volatile matter, total solids, shall be not less than 25 per cent by weight. Ash content, based on non-volatile, shall be not less than 35 per cent nor more than 50 per cent by weight. No free caustic alkali. Neutralization number shall be not more than 5. All of the material shall pass through a No. 200 sieve, and not less than 95 per cent, based on ash content, shall pass through a No. 325 sieve. Volatile matter shall be essentially water. Physical and performance tests are also specified.

Liquid Furniture Polish (P-P-552)

The polish shall be free from abrasives and suitable for use on finishes on wood and metal furniture. It shall have no objectionable odor. It shall be a stable colloidal emulsion of oil in water. It shall be a free-flowing fluid that can readily be applied with a cotton cloth and easily spread. Non-volatile matter shall be not less than 40 per cent by weight, and shall be essentially a well-refined petroleum oil. Ash content, based on non-volatile matter, shall be not more than 1 per cent by weight. Volatile matter shall be essentially water. No free caustic alkali shall be present. The saponification number shall be not more than 30. Physical and performance tests are also specified.

Metal Polish (P-P-556a)

Metal polish shall be of the following types:

Type I. Powder.
Type II. Liquid
Type III. Paste.

Metal polish of each type shall be of but one grade. It shall be a product, with or without a finely divided abrasive, suitable for the removal of tarnish from brass, nickel, copper, and other metals and capable of producing a luster thereon.

All types of metal polish shall have good tarnish removing properties, good luster-producing properties, shall give good protection to the polished surface against tarnishing influences, and shall be so constituted and prepared that, by reason of application and polishing, they—

(1) Shall not scratch metals.

(2) Shall not leave the metal discolored or caked with abrasive material.

(3) Shall not be detrimental in any manner to metals.

(4) Shall not show any unnecessary caking of type I or III polish in the containers. The abrasive material in liquid (Type II) polish, shall show no caking in the container, which cannot be readily put into suspension by thoroughly shaking the containers. The abrasive material shall be of such particle size that 100 per cent will pass through a No. 200 sieve.

Metal polish shall be free from acids, cyanide of potassium or other cyanides, grit, or other ingredients having detrimental effects on metals. Shall clean quickly, leaving a bright polished surface, with a full luster for the material being polished. When so specified the tarnish-removing and luster-producing properties shall be equal in quality to those of a standard sample furnished or approved by the purchaser. The polished surface shall remain free from corrosion or discoloration for a period of at least 24 hours.

Polish shall have good keeping qualities and be guaranteed for 1 year from the date of actual receipt at point of delivery. During the guaranty period the successful bidder shall replace without cost any metal polish which through deterioration, evaporation, caking in the container, or other causes, becomes unfit for use. Replacement metal polish shall also be guaranteed for 1 year from date of receipt. The metal polish will be stored in original unopened shipping containers, not subjected to freezing temperature or to excessive artificial heat. The amount of volatile matter, at 105° to 107° C., in either type II or III polish, shall not exceed 70 per cent by weight, of the polish. The flam-

mability of the liquid contents of types II and III polishes shall not be not less than 39° C.

Silver Polish (P-P-571b)

Silver polish shall be of the following types:

Type I. Liquid.

Type II. Paste.

Type III. Powder.

Silver polish shall be of but one grade, and shall consist solely of finely ground diatomaceous or infusorial earth, prepared as a powder (Type III) or suitably compounded with a neutral soap, to produce a liquid (Type I) or paste (Type II).

All types of silver polish shall have—

(a) Good tarnish-removing properties.

(b) Good luster-producing properties and shall be so constituted and prepared that by reason of application and polishing, they—

(1) Shall not scratch silver ware.

(2) Shall not leave silver discolored.

(3) Shall not leave any residue (which will cause discoloration) not removable by washing in warm soapy water.

(4) Shall not show any unnecessary caking of Type II or III polish in the containers. The abrasive material in liquid (Type I) polish, shall show no caking in the container which cannot be readily put into suspension by thoroughly shaking the containers.

The diatomaceous or infusorial earth in all types of silver polish shall be of such particle size that 100 per cent will pass through a No. 200 sieve.

Silver polish shall be free from acids or cyanides. Shall clean quickly leaving a bright polished surface, with a full luster for the material being polished. It shall have good keeping qualities and be guaranteed for 1 year from the date of actual receipt at point of delivery. During the guaranty period the successful bidder shall replace, without cost, any silver polish which through deterioration, evaporation, caking in the container or other causes, becomes unfit for use. Replacement silver polish shall also be guaranteed for 1 year from date of receipt. The silver polish will be stored in original unopened shipping containers not subjected to freezing temperature or to excessive artificial heat. The amount of volatile matter, at 105° to 107° C., in either Type I or II polish, shall not exceed 70 per cent by weight, of the polish. The flammability of the liquid contents of Types I and II polishes shall be not less than 39° C.

Stove Polish (P-P-576)

Stove polish shall produce a deep, lustrous black color when applied as directed by the manufacturer. It shall produce no odors upon burning and shall produce a durable coating that will not readily be burned off.

Type I.—Polish, stove, liquid, shall be of such consistency that the addition of a fluid will not be necessary in order to make it free-flowing. The vehicle of the polish shall be a non-inflammable liquid.

Type II. — Polish, stove, paste, shall be non-inflammable and shall be of such consistency that it can be readily applied.

Type III. — Polish, stove, powder, shall readily form a paste with water, and shall be non-inflammable.

Type IV. — Polish, stove, cake, shall readily disintegrate in water and form a paste and shall be non-inflammable.

Scouring Powder for Floors (P-P-591a)

Scouring powder for floors shall be of the following types, as specified: Type I—for fine marble floors; Type II—for tile or ceramic and terrazzo floors; Type III—soap scouring compound.

Type I—(For fine marble floors).

Matter volatile at 105° ±2° C. shall not exceed 10 per cent. The sum of sodium carbonate (Na_2CO_3) and anhydrous soap and/or active anhydrous salt-free synthetic detergent shall not exceed 7 per cent nor be less than 2 per cent. Free alkali, calculated as sodium hydroxide (NaOH) shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 85 per cent nor more than 95 per cent. All of the insoluble siliceous material shall pass through a No. 100 sieve, and the residue retained on a No. 200 sieve shall not exceed 5 per cent. The material shall not scratch nor discolor marble.

Type II—(For tile or ceramic and terrazzo floors).

Matter volatile at 105° ±2° C. shall not exceed 10 per cent. The sum of sodium carbonate (Na_2CO_3) and anhydrous soda soap and/or active anhydrous, salt-free synthetic detergent shall not be less than 2 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 80 per cent nor more than 95 per cent. The insoluble siliceous material shall not yield more than 1 per cent of residue retained on a No. 60 sieve and not more than 10 per cent of residue retained on a No. 80 sieve.

Type III — (Soap scouring compound).

Matter volatile at 105° ±2° C. shall not exceed 6 per cent. Carbonated alkali, calculated as sodium carbonate (Na_2CO_3) shall not be less than 6 per cent nor more than 20 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Anhydrous soap and/or active anhydrous salt-free synthetic detergent shall be not less than 3 per cent nor more than 10 per cent. Insoluble siliceous material shall be not less than 60 per cent nor more than 90 per cent. The insoluble siliceous material shall not yield more than 1 per cent of residue retained on a No. 60 sieve and not more than 10 per cent of residue retained on a No. 80 sieve.

Scouring Powder for Glass (P-P-596a)

Shall be a fine, uniform powder, and shall be suitable for clean-

ing highly polished glass surfaces which must transmit light efficiently, such as cabin windows and windshields of aircraft.

The material shall clean glass surfaces satisfactorily without scratching the glass or leaving an oily or other film on the surface. The material shall be a uniform, free-flowing powder, shall be scented or unscented, and shall be white or light gray in color. Matter volatile at 105° ±2° C. shall not exceed 4 per cent. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 5 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 85 per cent nor more than 93 per cent, and shall consist of ground feldspar or other insoluble siliceous abrasive that will not scratch highly polished glass surfaces. All of the insoluble siliceous material shall pass through a No. 200 sieve. Rosin, sugar, and foreign matter shall not be present. Anhydrous soda soap shall be not less than 4 per cent and shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° ±2° C., insoluble siliceous material, and alkali as alkaline salts.

Floor Oil; Mineral (P-O-361)

Floor oil shall be a straight-run petroleum distillate suitable for use on wood floors. It shall have no objectionable odor; and may be perfumed with cedar oil, pine oil, or similar materials, when specified. It shall be a clear well-defined petroleum oil free from sediment and other foreign material, and shall meet the following requirements:

The viscosity shall be not less than 70 nor more than 110 seconds (Saybolt Universal) at 100°F. The flash point shall be not less than 300°F. (open cup). The color shall be not darker than 3 N. P. A. (Lemon pale) (ASTM No. 3). The pour point shall be not more than 30°F. The saponification number shall not exceed 1.

Requirements for **Non-Volatile in P-W-134**

	Minimum	*Maximum*
Softening Point	71° C	..
Acid Value	..	18
Saponification Value	40	85
Iodine Number (WIJS)	15	22
Ash Content, Per Cent	..	0.5

Floor Wax; Solvent-Type, Liquid (With Resins) (P-W-134)

The liquid wax shall dry to a film that polishes easily to a hard lustrous flexible surface. It shall not be so highly colored as to stain the surface, and shall dry within 45 minutes to a semi-transparent, non-tacky film which shall show no signs of whiteness. It shall consist essentially of blended waxes with small amounts of resins in a volatile organic solvent. It shall be a heavy bodied liquid mixture of sufficient fluidity to permit freedom of application at 20° to 25° C. There shall be no appreciable settling of the suspended material. The liquid wax shall be smooth and shall be free from hard particles and granules.

Nonvolatile Matter (Total Solids).—There shall be not less than 11%, by weight, of nonvolatile matter in the liquid wax. The nonvolatile material shall meet the requirements shown in the table above:

Volatile Organic Solvent (Vehicle).—Shall consist of turpentine or volatile petroleum distillates, or any mixture thereof. The flash point of the volatile solvent shall be not less than 28° C. (closed cup).

Physical and Performance Tests.—Shall meet tests specified in paragraph F-2b.

Water Emulsion Floor Wax (P-W-151a)

The floor wax shall dry to a non-tacky, lustrous finish without rubbing, buffing, or polishing. The film produced shall adhere firmly to the surface without checking, cracking, or peeling and shall be transparent and practically colorless. The floor wax shall be suitable for use on sealed floors and flooring. It shall have no objectionable odor. It shall be a stable aqueous colloidal emulsion of waxes and resins. The emulsion shall be a free-flowing fluid that can readily be applied with an applicator such as lamb's wool, cotton cloth, or a mop to spread easily and uniformly. The film so applied shall dry to a lustrous finish.

The floor wax shall meet the following requirements:

Nonvolatile matter (total solids).—Shall be not less than 12 per cent.

Wax content and softening point.—The wax content of the total solids shall be not less than 65 per cent, by weight, and shall have a softening point of not less than 77° C.

Ash content (based on nonvolatile matter content).—Shall not exceed 3.5 per cent.

Free caustic alkali—None.

Volatile solvents. — Shall be free from petroleum distillates and other organic volatile solvents.

Dilution properties.—Shall be capable of dilution in any proportion with distilled water without breaking the emulsion.

Physical and performance tests are also provided.

Floor Wax (P-W-158)

The product shall dry to a film that polishes easily to a hard lustrous flexible surface. It shall not be so highly colored as to stain the surface; and shall dry within 45 minutes to a semitransparent non-tacky film which shall show no signs of whiteness. Floor wax shall consist essentially of blended waxes in a volatile organic solvent. It shall be free from rosin.

Type I (liquid)—Shall be a heavy bodied liquid mixture of suitable consistency to permit freedom of application at 20° to 25° C. There shall be no appreciable settling of the suspended material. The liquid wax shall be smooth and shall be free

from hard particles and granules. There shall be not less than 11 per cent, by weight, of non-volatile matter in the liquid wax. The nonvolatile matter shall meet the following requirements:

	Minimum	*Maximum*
Softening point	71°C.	—
Acid value	—	8
Saponification value...	20	70
Ash content, per cent..	—	0.5

The vehicle shall consist of turpentine or volatile petroleum distillates, or any mixture thereof. The flash point of the volatile solvent shall be not less than 28° C. (closed cup). Physical and performance tests are also provided.

Type II (paste).—Shall be a semi-solid material at 20° to 25° C. There shall be no separation of liquid from paste. The paste shall be smooth and shall be free from hard particles and granules. There shall be not less than 20 per cent, by weight, of nonvolatile matter in the paste wax. The nonvolatile material shall meet the following requirements:

	Minimum	*Maximum*
Softening point	71°C.	—
Acid value	—	8
Saponification value...	20	70
Ash content, per cent..	—	0.5

The vehicle shall consist of turpentine or volatile petroleum distillates, or any mixture thereof. The flash point of the volatile solvent shall be not less than 28° C. (closed cup). Physical and performance tests are also provided.

Floor Sealer (Lacquer Type) (TT-S-171)

The manufacturer is given wide latitude in the selection of raw material and processes of manufacture, provided that the sealer produced meets the requirements and tests. The product, when applied in accordance with directions shall satisfactorily seal the pores of the wood leaving the wood surface in such condition as to provide a satisfactory foundation for a finishing material such as varnish, liquid or paste wax or water-emulsion wax. It shall be "natural" in color and of sufficient fluidity to permit application with a bristle brush or lamb's wool mop.

The floor sealer shall be a clear liquid free from sediment or suspended matter and shall be of such fluidity that no further thinning will be required. It shall meet the following requirements:

Nonvolatile matter.—Not less than 14 per cent.

Set-to-touch. In not more than 15 minutes.

Dry hard and tough.—In not more than 3 hours.

Nitrocellulose.—Not less than 20 per cent by weight of the nonvolatile content.

Toughness. — Air-dried film on metal shall withstand rapid bending over a rod 3 mm. (⅛ inch) in diameter.

Viscosity. — Not more than 0.220 poise.

Performance tests are also specified.

Wood and Cork Floor Sealers (TT-S-176a)

Floor sealers shall be furnished in one grade and two classes for use on wood and cork floors as follows: Class 1 — minimum nonvolatile content 40 per cent; Class 2 —minimum nonvolatile content 25 per cent. The manufacturer is given wide latitude in the selection of raw materials and processes of manufacture, provided that the sealer produced meets the requirements and tests described in this specification.

When applied in accordance with directions the product shall satisfactorily seal the pores of the flooring by absorption, leaving no apparent surface film and shall provide a satisfactory foundation for a finishing material such as varnish, liquid or paste wax, or water-emulsion wax. Unless otherwise specified, floor sealer shall be furnished "natural" in color. Floor sealer shall have sufficient fluidity to permit application with a bristle brush or lamb's wool mop.

Both classes of sealers shall be nonpigmented materials and shall be capable of being thinned with turpentine or mineral spirits. The respective sealers shall meet the following requirements: *Nonvolatile matter*—Class 1, not less than 40 per cent; Class 2, not less than 25 per cent. *Set to touch*—in not less than 1 hour and not more than 4 hours. *Dry, hard and tough*—in not more than 18 hours. *Water test*—The sealer shall meet specified cold water test.

Toughness—Shall pass a 75 per cent Kauri reduction test at 25° C. (77° F.).

Flash point—Shall be not below 30° C. (86° F.). (Closed-cup.)

Viscosity at 25° C.—Class 1, not more than 0.50 poise; Class 2, not more than 0.220 poise.

Skinning—Shall be negligible when received and after 48 hours in a tightly closed half-filled container.

Odor—The odor in the can, during drying, and/or after drying shall not be abnormally offensive or disagreeable.

Performance tests are also specified.

Liquid Insecticide (Fly Spray) (O-I-541a)

The insecticide shall not cause irritation to man nor be poisonous to man when applied in the usual manner. It shall have no greater detrimental action or metal or paint surface than a specified test solvent. It shall have no objectionable odor. It shall be formulated from a petroleum distillate base, free from kerosene odor and practically free from all odor, shall be clear and free from suspended matter and shall contain active ingredients so that it will test not more than 2 per cent below the O.T.I. in average percentage knockdown and at least 16 per cent above the O.T.I. in average percentage kill.

Initial boiling point shall not be below 350° F. and end point not above 530° F. Flash point shall be not less than 125° F. (closed cup). No residual odor shall be present, under a specified test. The product shall meet specified test for staining properties and corrosion.

Liquid Insecticide (Household) (O-I-546a)

The specification follows closely along the lines of the specification for O-I-541a, with an addition requirement as follows, covering minimum pyrethrin content.

"There shall be not less than 0.13 gram of Pyrethrin I with the normally acompanying amount of Pyrethrin II in 100 ml. of the liquid insecticide. Any additional ingredients which when incorporated in the product will comply with the requirements of this specification may be used to bring the strength of the product up to the performance requirements." The performance test specifies that it must test not more than 2% below the O.T.I. in knockdown and at least equal to the O.T.I. in kill.

Shaving Cream and Soap (FFF-C-641)

Shaving soap and cream shall be of the following types and classes:

Type I. Soap:
- Class (A)—Cakes.
- Class (B)—Stick.
- Class (C)—Powder.

Type II. Cream:
- Class (A)—Lather cream.
- Class (B)—Brushless cream.

Shaving soaps, Type I, shall be high-grade products free of caustic alkalinity that yield a heavy, creamy lather that will remain moist upon the face until the shaving is completed. In the case of Class B (stick), the soap shall adhere to the face when the stick is moistened and rubbed thereon. In the case of class C (powder), the material shall be free-flowing and shall not cake in the container.

Lather cream — Class A, shall be a soft, uniform cream or paste free from free alkali. It shall distribute well into the bristles of a shaving brush and shall yield a heavy creamy lather that will remain moist upon the face until the shaving is completed.

Brushless cream—Class B shall be a soft, uniform cream or paste free from free alkali.

Type I. Shaving soap, Classes A, B, and C—

Color—shall be as specified by the purchaser. *Odor*—shall be pleasant and shall be as specified by the purchaser. *Lathering quality*—shall be satisfactory. Shall conform to the following test:

Shake 100 ml of a 0.2 per cent (based on the nonvolatile matter) solution of the soap (Type I, classes, A, B, and C and Type II, class A) in distilled water at room temperature in a stoppered 200-ml graduated cylinder 30 times in 15 seconds, and let stand at room temperature for 1 hour. The volume of foam above the liquid shall extend to the top of the cylinder and shall not decrease more than 10 per cent of its original volume in 1 hour.

Caking (Class C only)—The material shall be free-flowing and shall not cake in a closed container at room temperature.

Type II. Shaving cream. Classes A and B—

Color—shall be as specified by the purchaser. *Odor*—shall be pleasant and shall be as specified by the purchaser.

Lathering quality (Class A only)—shall be satisfactory. Shall conform to the test described above.

Type I. Shaving soap, Classes A, B, and C—shall conform to the detail requirements shown in the accompanying table.

The percentage of volatile matter shall be computed, and reported on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed volatile matter content of 10 per cent for Classes A and B and of 2 per cent for Class C.

Technical Trisodium Phosphate (O-T-671a)

Technical trisodium phosphate shall be a white, uniform product and may be either granular, flake, or crystalline.

It shall contain not less than 98 per cent of trisodium phosphate calculated as $Na_3PO_4.12H_2O$, from the total phosphoric anhydride (P_2O_5). It shall conform to the following detail requirements:

	Minimum Per Cent	*Maximum Per Cent*
Trisodium phosphate, calculated as $Na_3PO_4.12H_2O$, from total P_2O_5	98	—
Total alkalinity to methyl orange, calculated as Na_2O	16	19
Phosphoric anhydride (P_2O_5)	18.3	—
Matter insoluble in water	—	0.1

Detail Requirements for Shaving Soap

TYPE I	*Classes A and B cake and stick*		*Class C powder*	
	Min.	*Max.*	*Min.*	*Max.*
	Per Cent	*Per Cent*	*Per Cent*	*Per Cent*
Matter volatile at 105° C	—	10	—	2
Matter insoluble in hot 95 per cent ethyl alcohol	—	.8	—	.8
Free alkali	—	None	—	None
Free fatty acids (calculated as stearic acid)	—	1.0	—	1.0
Matter insoluble in hot distilled water	—	.4	—	.4
Anhydrous soap (calculated as potash soap)	87	—	96	—
Amount passing a No. 20 sieve	—	—	100	—

Detail Requirements for Shaving Cream

TYPE II	*Class A lather cream*		*Class B brushless cream*	
	Min.	*Max.*	*Min.*	*Max.*
	Per Cent	*Per Cent*	*Per Cent*	*Per Cent*
Moisture (toluene distillation method)	—	50	—	70
Matter insoluble in hot 95 per cent ethyl alcohol	—	.3	—	—
Free alkali	—	None	—	None
Free fatty acid (calculated as stearic acid)	—	6.5	15	—
Matter insoluble in hot distilled water	—	.3	—	—
Anhydrous soap (calculated as potash soap)	40	—	—	—

Bac-trol

"Aristocrat of Germicides"

by

Baird & McGuire, Inc.
of St. Louis, Mo., and Holbrook, Mass.

N.A.I.D.M. SPECIFICATIONS

Official Specifications of the National Association of Insecticide and Disinfectant Manufacturers for

INSECTICIDES and DISINFECTANTS

OFFICIAL SPECIFICATIONS Liquid Household Spray Insecticide

(Adopted December, 1936)

1. A household spray oil type insecticide shall be harmless to man and warm blooded household animals, when used as directed.

2. When sprayed, as directed, it shall not stain fabrics, wall paper and general household furnishings, that are not stained by dry cleaning fluid.

3. When used in the customary manner it shall not contaminate closed packages of food materials commonly found in homes.

4. It shall not corrode metals.

5. It shall have no objectionable odor, and no particular odor shall be specified.

6. It shall have a flashpoint not less than 125° F. when tested in the Tagliabue closed cup.

7. It is recommended that it be purchased on a direct competitive basis with the Official Test Insecticide of the National Association of Insecticide and Disinfectant Manufacturers, Inc., by using the method of test specified in literature accompanying the Official Test Insecticide.

8. The Association hereby adopts the following grades (the plus or minus figures shown therein designating the points over or under the Official Test Control Insecticide when the "Unknown" and the "Control" are tested at the same time in the same manner):

Designation	*Grade*	*Kill Classification*
AA	Excellent	+ 16 or higher
A	Very Good	+ 6 to + 15
B	Equal to Official Test Insecticide	+ 5 to — 5

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1: Standard Specifications for Liquid Hypochlorites Disinfectant, Deodorant and Germicide

Composition—Liquid hypochlorites are available in three forms: *one,* sodium hypochlorite alkaline with sodium hydrate, sodium carbonate or the other alkaline salts; *two,* hypochlorites which are essentially sodium hypochlorite and alkaline with calcium hydrate; and *three,* calcium hypochlorite solutions alkaline with calcium hydrate. A delivery of any one of these shall be satisfactory unless otherwise specified.

Physical Requirements — The hypochlorite solution shall be a homogeneous liquid. It shall be miscible with water of zero hardness at 20° C. (68° F.) in all proportions. It shall be ready for dilution when delivered.

Chemical Requirements—The available chlorine content which shall not be less than 2.5 per cent by weight shall be clearly stated on the label. Its rate of deterioration shall not be more than 10 per cent of its original available chlorine content when stored in the original container for six months in a cool, dark place at maximum temperature of 68° F. (20° C.).

Identification—Each container shall be marked with the name of the material, the brand (if any) of the material, the name of the manufacturer, net contents therein, and date of manufacture.

Packing—The hypochlorite shall be delivered in standard commercial containers of the size as called for in the schedule. Each container holding one gallon or more shall be stoppered with a closure having vent.

2: Standard Specifications for Pine Oil Disinfectant

1. The product shall be manufactured from pure steam distilled pine oil and emulsifying agent and remain clear and homogeneous under normal and reasonable conditions of storage.

2. It shall contain not less than 60 per cent by weight steam distilled pine oil.

3. It shall contain not more than 10 per cent water.

4. The phenol coefficient shall be determined by the F.D.A. Method of Test against B. typhosus and be clearly stated on the label attached to each shipping container.

5. It shall not contain kerosene or other petroleum distillates.

6. The product shall make a stable emulsion in water of zero hardness at 20° C. (68° F.) when diluted at the rate of 5 per cent. The emulsion shall stand for at least twenty-four hours showing no sign of oil float (unsaponified or clear free oil).

3: Standard Specifications for Emulsifying Type Coal Tar Disinfectant

1. It shall be made from phenols of coal tar or petroleum origin, or combinations of such phenols with coal tar oils, and an emulsifying agent.

2. It shall contain not less than 65 per cent by weight of phenols and coal tar oils.

3. It shall contain not over 10 per cent of water, by weight.

4. It shall not contain kerosene or any petroleum distillates other than phenols of petroleum origin.

5. The phenol coefficient shall be determined by the Food and Drug Administration Method using B. typhosus as test organism, and shall be clearly stated on the label attached to each shipping container.[1]

6. It shall make milky emulsions with water of zero hardness at 20° C. (68° F.) when diluted in the ratio of 5 parts of disinfectant to 95 parts of water for disinfectants having phenol coefficients of 10 or under; and in the ratio of 2 parts of disinfectant to 98 parts of water for disinfectants having phenol coefficients of over 10. These emulsions shall show not more than a trace of oily float or sediment when stored for 5 hours at room temperature.

7. It shall remain limpid, showing no sign of naphthalene crystallization down to 0° C. in 3 hours.

8. It shall contain less than 5 per cent of benzophenol.

9. The disinfectant, under normal and reasonable conditions of storage, shall remain stable and show no loss of germicidal value.

Certification and Labeling

10. The following form of statement on labels[2], invoices, etc., is recommended:

"The .....Company certifies this phenolic disinfectant (emulsifying type) to conform to all requirements of the standard adopted by the NATIONAL ASSOCIATION OF INSECTICIDE AND DISINFECTANT MANUFACTURERS, INC., and recorded as Commercial Standard CS70-.... by the National Bureau of Standards of the U. S. Department of Commerce.
Phenol coefficient....."

[1] This type of disinfectant is available with phenol coefficients ranging from 2 to 30, and higher. Contract buyers should specify the phenol coefficient desired.

[2] When used on labels this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

4: Standard Specifications for Cresylic Disinfectants

Scope

1. This standard covers materials, physical and chemical properties, and certification of quality of phenolic disinfectant (soluble type), classified under two groups as follows:

(a) Group I—Phenolic disinfectants having phenol coefficients from 1.5 to 5[1].

(b) Group II—Phenolic disinfectants having phenol coefficients above 5.

Detail Requirements (Group I)

2. Group I disinfectants shall be made from cresol or cresylic acid of coal tar or petroleum origin, and a dissolving agent.

3. Group I disinfectants shall contain not less than 50 per cent of cresol or cresylic acid, as determined by the method prescribed in U. S. Pharmacopoeia XI for the assay of cresol in the Saponated Solution of Cresol.

4. Group I disinfectants shall contain not more than 25 per cent by weight of inert ingredients (water plus glycerine, and organic solvents, if any).

5. The phenol coefficient of Group I disinfectants shall be determined by the Food and Drug Administration Method using B. typhosus as the test-organism, and shall be clearly stated on the label attached to each shipping container.

6. Group I disinfectants shall contain less than 5 per cent of benzophenol.

7. Group I disinfectants shall make clear solutions with water of zero hardness at 20° C. (68° F.) within the concentration range of from 1 to 4 per cent; such solutions, when kept in closed containers, shall remain either practically clear or become only slightly opalescent when allowed to stand for 24 hours at 20° C. (68° F.) away from direct light.

8. Group I disinfectants shall show no soap separation when cooled down to 0° C. and held at this temperature for 3 hours.

Detail Requirements (Group II)

9. Group II disinfectants shall be made from phenols of coal tar or petroleum origin, and a dissolving agent.

10. Group II disinfectants shall contain not less than 50 per cent of phenols[2].

11. Group II disinfectants shall contain not more than 25 per cent by weight of inert ingredients (water plus glycerine and organic solvents, if any).

12. The phenol coefficients of Group II disinfectants shall be determined by the Food and Drug Administration Method using B. typhosus as the test-organism, and shall be clearly stated on the label attached to each shipping container.

13. Group II disinfectants shall contain less than 5 per cent of benzophenol.

14. Group II disinfectants shall make clear solutions with water of zero hardness at 20° C. (68° F.) at concentrations of 2 per cent or less; such solutions, when kept in closed containers, shall remain either practically clear or become only slightly opalescent when allowed to stand for 24 hours at 20° C. (68° F.) away from direct light.

15. Group II disinfectants shall show no soap separation when cooled down to 0° C. and held at this temperature for 3 hours.

Certification and Labeling

16. The following form of statement on labels[3], invoices, etc., is recommended:

"The .....Company certifies this disinfectant to conform to all requirements for (Group I)
(Group II) of the standard adopted by the NATIONAL ASSOCIATION OF INSECTICIDE AND DISINFECTANT MANUFACTURERS, INC., and recorded as Commercial Standard CS71-...., by the National Bureau of Standards of the U. S. Department of Commerce.
Phenol Coefficient....."

[1] The disinfectants of Group I fall within the type commonly designated "Cresylic disinfectants."

[2] A satisfactory method of assay of all possible types of disinfectants comprised by Group II is not available, but work on the subject is in progress.

[3] When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

N.A.I.D.M. DEFENSE EMERGENCY SPECIFICATION "A" FOR PHENOLIC DISINFECTANT EMULSIFYING TYPE

Purpose

1. The purpose of this defense emergency specification is to provide a minimum specification for quality, as a basis for understanding and voluntary guarantees between producers, distributors, and users in the purchase of the commodities covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of phenolic disinfectant (emulsifying type), manufactured in conformity with a recognized specification of a national trade association.

Scope

2. This specification covers materials, physical and chemical properties, and certification of quality of phenolic disinfectant (emulsifying type).

Detail Requirements

3. The disinfectant shall not contain kerosene or any petroleum distillate other than phenols of petroleum origin.

4. The phenol coefficient shall be determined by the Food and Drug Administration method, using B. typhosus as test organism, and shall be clearly stated on the label attached to each shipping container.

5. The disinfectant shall make milky emulsions with water of zero hardness at 20° C. (68° F.) when diluted in the ratio of 5 parts of disinfectant to 95 parts of water for disinfectants having phenol coefficients of 10 or under; and in the ratio of 2 parts of disinfectant to 98 parts parts of water for disinfectants having phenol coefficients of over 10. These emulsions shall show not more than a trace of oily float or sediment when stored for 5 hours at room temperature.

6. The disinfectant shall remain limpid, showing no sign of naphthalene crystallization down to 0° C. in 3 hours.

7. The disinfectant shall contain less than 5 per cent of benzophenol (phenol, C_6H_5OH).

8. The disinfectant, under normal and reasonable conditions of storage, shall remain stable and show no loss of germicidal value.

Certification and Labeling

9. The following form of statement on labels[4], invoices, etc., is recommended:

The ..... Company certifies this phenolic disinfectant (emulsifying type) to conform to all requirements of a specification adopted and recorded as N.A.I.D.M. Defense Emergency Disinfectant Specification "A" by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

[4] When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

N.A.I.D.M. DEFENSE EMERGENCY SPECIFICATION "B" FOR PHENOLIC DISINFECTANT SOLUBLE TYPE

Purpose

1. The purpose of this defense emergency specification is to provide a minimum specification for quality, as a basis for understanding and voluntary guarantees between producers, distributors, and users in the purchase of the commodities covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of phenolic disinfectant (soluble type), manufactured in conformity with a recognized specification of a national trade association.

Scope

2. This specification covers materials, physical and chemical properties and certification of quality of phenolic disinfectant, soluble type.

General Requirements

3. The disinfectant shall be made from phenols of coal tar or petroleum origin and a dissolving agent.

4. The disinfectant shall not contain kerosene or any petroleum distillates other than phenols of petroleum origin.

5. The phenol coefficient shall be determined by the Food and Drug Administration method, using B. typhosus as test organism, and shall be clearly stated on the label attached to each shipping container.

6. The disinfectant shall make either a clear or opalescent mixture with dis-

tilled water at 20° C. (68° F.) within the concentration range of 1 to 4 per cent; when opalescent, it shall become practically clear upon addition of a few drops of a 10 per cent KOH solution.

7. It shall show no soap separation when cooled down to 0° C. and held at this temperature for 3 hours.

Certification and Labeling

8. The following form of statement on labels*, invoices, etc., is recommended:

The ..... Company certifies this phenolic disinfectant (soluble type) to conform to all requirements of a specification adopted and recorded as N.A.I.D.M. Defense Emergency Disinfectant Specification "B" by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

* When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

N.A.I.D.M. SPECIFICATION "C" FOR PHENOLIC DISINFECTANT FROM SYNTHETIC PHENOLS

Purpose

1. The purpose of this commercial standard is to provide a minimum specification for quality, as a basis for understanding and voluntary guarantees between producers, distributors, and users in the purchase of the commodity covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of phenol disinfectant from synthetic phenols, manufactured in conformity with a recognized specification of a national trade association.

Scope

2. This specification covers materials, physical and chemical properties and certification of quality of phenolic disinfectants of synthetic origin.

Detail Requirements

3. The disinfectant shall be made from synthetic phenols of the type comprising alkyl, aryl, and aralkyl phenols, or their chlorinated or brominated derivatives, and a dissolving or emulsifying agent.

4. The phenol coefficient shall be determined by the Food and Drug Administration method, using B. typhosus as the test organism, and shall be clearly stated on the label attached to each shipping container.

5. The disinfectant, under normal and reasonable conditions of storage, shall remain stable and show no loss of germicidal value.

6. The disinfectant shall make stable emulsions or solutions with water of zero hardness at 20° C. (68° F.); they shall show not more than a trace of float or sediment when stored for 5 hours at room temperature.

Certification and Labeling

7. The following form of statement on labels*, invoices, etc., is recommended:

The ..... Company certifies this phenolic disinfectant from synthetic phenols to conform to all requirements of a specification adopted and recorded as N.A.I.D.M. Specification "C" by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

* When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

N.A.I.D.M. SPECIFICATION "D" FOR FORTIFIED PHENOLIC DISINFECTANT

Purpose

1. The purpose of this commercial standard is to provide a minimum specification for quality, as a basis for understanding and voluntary guarantees between producers, distributors, and users in the purchase of the commodities covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of a fortified phenolic disinfectant manufactured in conformity with a recognized specification of a national trade association.

Scope

2. This standard covers materials, physical and chemical properties, and certification of quality of fortified phenolic disinfectant of both the emulsifying and soluble types.

Detail Requirements

3. The disinfectant shall be made from phenols of coal tar or petroleum origin, plus synthetic phenols of the class comprising alkyl, aryl or aralkyl phenols or their chlorinated or brominated derivatives, and a dissolving agent.

4. The proportion of the synthetic phenol shall be not more than 25 per cent by weight of the total phenolic content.

5. The disinfectant shall not contain kerosene or any petroleum distillates other than phenols of petroleum origin.

6. The phenol coefficient shall be determined by the Food and Drug Administration method, using B. typhosus as test organism, and shall be clearly stated on the label attached to each shipping container.

7. The disinfectant, under normal and reasonable conditions of storage, shall remain stable and show no loss of germicidal value.

8. The disinfectant shall make stable emulsions or solutions with water of zero hardness at 20° C. (68° F.); they shall show not more than a trace of float or sediment when stored for 5 hours at room temperature.

Certification and Labeling

9. The following form of statement on labels*, invoices, etc., is recommended:

The ..... Company certifies this fortified phenolic disinfectant to conform to all requirements of a specification adopted and recorded as N.A.I.D.M. Disinfectant Specification "D," by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

* When used on labels, this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

SIMPLIFIED PRACTICE RECOMMENDATION FOR SIZES OF GLASS CONTAINERS AND PACKAGES FOR HOUSEHOLD INSECTICIDES

(Liquid Spray Type)

Table 1.—Retail Packages

Package Size	*Exhibition No. in Limitation Order L-103*	*Overflow Capacity*	*Maximum Weight of Glass*	*Height*	*Maximum Outside Diam. of Body*	*G.C.A. 400 Finish Size*	*Packages per Shipping Case*
Fluid Ozs.		*Fluid Ozs.*	*Avoir. Ozs.*	*Inches*	*Inches*	*M.M.*	
1 pt.	80-50	16-31/32	11	6-41/64 overall	2-63/64	28	24
1 qt.	80-75	33-53/64	17½	8-1/8 overall	3-47/64	28	12
	80-76	33-59/64	17¾	8-1/8 overall	3-47/64	33	
1 gal. bottle	80-96	135⅝	60	12-9/16 overall	5-63/64	38	4
1 gal. jug	51.98	136	48	9-3/8 bottom to neck bead	6-41/64	38	

NOTES:

1. Finishes are interchangeable in accordance with provisions of the order.

2. When lower glass weights are used, adjustment to make correct capacity shall be made in the "B" dimension.

3. Profiles similar to those illustrated for Exhibit Series 80-00 for Boston Round Bottles and Series 51-00 for Glass Jugs as shown in WPB Limitation Order L-103 shall be maintained consistent with "C" and "D" dimensions.

4. Containers shall be round.

5. Bottom stippling optional.

YOUR SALES OF *Bright Beauty* WAX

"STAY SOLD"

Yes sir, you can depend on getting re-orders whenever you sell Bright Beauty Floor Wax. No wonder! This "balanced" floor wax pleases all concerned. The maintenance staff likes the easy way it goes on the floor, the ease with which traffic marks can be blended . . . and the equal ease with which Bright Beauty can be removed when re-waxing becomes necessary. The purchasing department soon recognizes its long-term economy. And the "front office" enjoys its exceptionally bright lustre combined with non-slipperiness

Compounding floor waxes with the essential properties correctly balanced calls for "know-how" . . . which CANDY & CO. has acquired in the course of more than 50 years' experience. The integrity of the makers is your guarantee that the products having *your* label will always be uniformly excellent. Write today for experimental samples and prices.

SOLD THROUGH DISTRIBUTORS ONLY

Bright Beauty products are sold through distributors only* . . . never direct to the consuming trade. It is our unalterable policy never to compete with our jobbers. Packed in attractive containers under your own label. Competitively priced, yet can be sold so as to allow you a liberal margin of profit.

**Except for experimental accounts in Chicago, essential to research.*

CANDY & CO., INC., 2515 W. 35th ST., CHICAGO

Wax Specialists for Over 50 Years

Makers of Paste Wax, Spirit Liquid Waxes, Powdered Dance Floor Wax, Concentrated Cream Furniture Polish, Paste Cleaners.

Floor Wax Specification

Official Specification and Standard Test Method of The National Assn. of Insecticide and Disinfectant Mfgrs.

A SPECIFICATION and standard method of testing for water emulsion floor waxes was adopted by the National Association of Insecticide & Disinfectant Manufacturers at a meeting in Cleveland, June, 1943. Specification and method follows:

SPECIFICATION FOR WATER-DISPERSION FLOOR WAX

Applicable to Waxes of from 10 to 15% Total Solids

A. General Requirements

1. The material shall be suitable for application to all sealed floors and floor coverings in general.

2. The material shall be a stable aqueous colloidal dispersion of waxes and other suitable substances. The composition and properties of the material shall be such that it will meet all of the provisions of the detailed requirements, when tested by the NAIDM test methods.

3. When applied in accordance with the manufacturer's direction, the material shall dry to a lustrous finish without polishing.

B. Detailed Requirements

1. *Sediment.* The material shall be a fluid dispersion containing not over 4 per cent sediment, the percentage being calculated on the basis of total solids.

2. *Stability.* The material shall show no gelling or creaming when kept in closed containers at 52° C. (125° F.) for 168 hours (7 days).

3. *Application.* The material is to be applied as a thin, uniform film to clean dry flooring surfaces.

4. *Color and Transparency.* A thin, dried film of the material, prepared by flowing onto a clear glass plate and drying in air at 25° C. (77° F.), shall be substantially transparent and practically colorless, as viewed by transmitted bright daylight.

5. *Leveling and Spreading.* The material, when applied as a thin, uniform film on new linoleum shall dry without streaking.

6. *Lustre or Gloss.* The dried film shall increase the gloss of new linoleum not less than 10 per cent, as measured by a light reflectance meter.

7. *Alkalinity.* The material shall not have a pH greater than 10.0 nor less than 4.0.

8. *Surface Tension.* The material shall have a surface tension not greater than 33 dynes per centimeter at 25° C. (77° F.).

9. *Flexibility of Film.* The dried film shall be sufficiently flexible so that no cracking will occur when a 2 coat application, on new linoleum, dried 48 hours at 25° C. (77° F.) and 50 per cent relative humidity is bent, through 180° around a 2 inch diameter mandrel.

10. *Abrasion Resistance.* The dried film shall have an abrasion index (Taber cycles divided by weight of film in mgs. per sq. cm.) of not less than 100 when tested on glass plates using a Taber Abraser (Model J or equivalent) with Taber CS-10 Calibrase wheels.

11. *Tackiness and Slipperiness.* The dried film shall be neither soft and sticky nor excessively slippery.

12. *Water Resistance.* The dried film on a specified surface, after 48 hours at 25° C. (77° F.) and 50 per cent relative humidity shall be resistant to cold water. The film shall not be permanently whitened or damaged by contact with water for one hour at 25° C. (77° F.). The film shall not be removed by damp mopping with a soft rag using clear water at 25° C. (77° F.).

13. *Removal of Film.* A film dried for 48 hours at 25° C. (77° F.) and 50 per cent relative humidity, on new linoleum, shall be easily removable by moderate scrubbing with a soft bristle brush, using an aqueous detergent solution, containing 0.25 per cent tallow soap chips and 0.25 per cent aqua ammonia (28 per cent NH^3) at a temperature of 50° C. (122° F.).

N.A.I.D.M. PROPOSED STANDARD METHODS FOR TESTING WATER-DISPERSION FLOOR WAX

Purpose

The purpose of compiling a more or less complete set of methods for testing water-dispersion floor wax is to make available to the manufacturer, user or other interested persons suitable procedures which have proven to be best adapted for the purpose intended. It is the further purpose to limit the methods more or less to tests designed to evaluate performance properties rather than to determine composition data. There is a need for such standard methods because even on such a simple test as total solid content, there is a possibility of widely divergent results unless great attention is paid to small details. At present there are no methods accepted as standard by any association or group except as such methods may be part of a specification. Standard methods of testing will make it possible to eliminate controversies which are now inevitable.

Methods of Testing

1. *Sediment.* Mix the original sample well and pour a 100 cc. portion into a graduated A.S.T.M. water and sediment tube. Centrifuge for 15 minutes at approximately 2,000 r.p.m. Read directly volume of sediment in mls.

2. *Stability.* Measure viscosity of original sample at 25° C. (77° F.) using Oswald type pipet viscosimeter. Pour 100 ml. of the original sample into a 4 oz. bottle approximately 35 mm. inside diameter. Close the bottle securely with a clean cork and allow it to stand undisturbed in an upright position at 52° C. (125° F.) for 168 hours. At the end of this time, cool to room temperature, measure viscosity as before and observe for any creaming, separation or gelling.

3. *Total Solids.* Use a porcelain capsule crucible approximately 5 cm. in diameter and 1 cm. deep for the determination. Heat the capsule to dull red heat, cool in a desiccator, and weigh to the nearest tenth of a milligram. Place in the capsule a sample of from 2 to 3 grams accurately weighed to the nearest milligram, taking suitable precautions to avoid error due to loss of weight by evaporation during transfer and weighing of the sample. Heat the capsule containing the sample on a steam bath for 1 hour, then transfer it to a drying oven and heat for 3 hours at 105° to 110° C. (221° to 230° F.). Cool the capsule in a desiccator and weigh to the nearest tenth of a milligram. Multiply the weight of non-volatile matter by 100 and divide by the weight of the sample to obtain the percentage of non-volatile matter.

4. *pH Value.* Determine the pH of the sample at 25° C. (77° F.) using a glass electrode pH meter without application of correction for sodium or potassium ion concentration.

5. *Surface Tension.* The surface tension of the sample at 25° C. (77° F.) may be determined by one of the reliable, established methods for this determination. The ring detachment method is preferred for this test on water-dispersion waxes. Instruments suitable for determination of the surface tension of water-dispersion floor waxes include the Cenco-du Nouy Tensiometers described in Bulletin 101 of the Central Scientific Company.

6. *Levelling and Spreading.* Test panels, 3 x 6 inches, of new brown linoleum of good quality and either ⅛ or ¼ inch in thickness shall be used. Before applying the water-dispersion wax to these test panels, thoroughly re-

move any wax coating. Usually this can be done by soaking for five minutes at 50° C. (122° F.) in an aqueous solution containing 0.25 per cent by weight of 88-92 per cent tallow chip soap and 0.25 per cent by weight of 28 per cent aqua ammonia, scrubbing the top surface of the test panels gently with a soft bristle brush or cloth saturated with the above detergent solution at 40°-50° C. (104°-122° F.), rinsing the test panels thoroughly with water at 40°-50° C., draining and wiping the top surface dry with soft clean cloths.

Apply some of the sample to one of the cleaned linoleum test panels, using a small, clean mohair applicator just saturated with the sample, and applying it with light, uniform, overlapping parallel strokes. Note levelling and spreading properties from appearance of dried film.

Place coated linoleum specimen in desiccator or chamber in which humidity is controlled at 50 per cent relative humidity (see Note 1) at a temperature of 25° C. (77° F.) for 48 hours. Then apply a second coat of sample using same technic as above. Note any re-emulsification on applying second coat and levelling and spreading properties from appearance of dried film.

If flexibility of film is required, test can be carried out on same test panel.

7. *Drying Time.* Flow a uniform film of the sample over the surface of a clear glass plate which has been cleaned by immersion in chromic acid cleaning solution followed by thorough rinsing with clear water. Incline the test plate at an angle of 45° to the horizontal and allow it to drain and dry in this position in air maintained at a temperature of 25° C. (77° F.) and 50 per cent relative humidity. Observe time required for film to become dry to touch at a point 15 mm. above lower horizontal edge. Express drying time as period required to nearest minute. If transparency of film is required, observation can be made on this same test panel.

8. *Gloss or Lustre.* Use a gloss meter consisting of a light source, of constant intensity, directing a substantially parallel beam at the surface to be tested at an angle of incidence of 45°; a photocell, with a spectral-response curve approximating the ICI standard luminosity curve, placed to intercept the reflected beam at an angle of reflection of -45°; a sensitive galvanometer for measuring the e.m.f. generated by the photocell. A meter of this description is supplied by Pfaltz & Bauer, Inc., New York City. Calibrate the gloss meter by placing it on an optical flat, made of glass with an index of refraction of nD = 1.5172, 8 mm. thick, with a fine ground back resting on a non-reflecting black surface. Check the instrument before and after all readings on test panels.

Select a test panel of new brown linoleum from which all wax has been thoroughly removed and record the gloss of the test panel. Flow a uniform film of the sample onto this test panel, drain and dry at an angle of 45° in air at a temperature of 25° C. (77° F.) and 50 per cent relative humidity for a period of 24 hours, then measure the gloss of the dried film on the test panel with the calibrated gloss meter. Subtract the gloss reading of the test panel from the gloss reading of the dried film on the test panel, multiply the difference by 100, and divide by gloss reading of the test panel to give the percentage increase in gloss.

As an alternative method particularly intended for control testing, it is proposed that a standard test solution consisting of ammonia-water-shellac or sugar in water be developed so that such solution when applied to a linoleum surface will produce a gloss equivalent to an increase of 100 per cent as determined by the gloss meter.

9. *Transparency of Film.* Clean a piece of clear plate glass using chromic acid cleaning solution and rinse thoroughly. Flow a uniform film of the sample onto one surface of this glass, and allow it to drain and dry at an angle of 45° in air at a temperature of 25° C. (77° F.) and 50 per cent relative humidity. Observe the dried film from the under side of the glass plate by transmitted bright daylight.

10. *Flexibility of Film.* Prepare linoleum test panel with 2 coats of sample exactly as described under Leveling and Spreading. Alternately the same test panel may be used for both tests. Determine the flexibility of the film at 25° C. (77° F.) and 50 per cent relative humidity by bending the test panel, with the treated surface on the outside, around a mandrel 2 inches in diameter, through an arc of 180°. Observe the film for any cracking or chipping.

11. *Abrasion Resistance.* Prepare three discs of ⅛" thick, clear plate glass, each 4" in diameter with a ¼" diameter hole in the center. Clean the discs by the method specified for linoleum test panels. By means of two glass cylinders, one 2" in diameter and one 3⅞" in diameter, with lower ends ground exactly at right angles to their axes, and dipped into melted paraffin, apply two rings of paraffin to the upper surface of each disc, concentric with the center hole, being careful to avoid contaminating the cleaned glass surface between the two rings. Determine the area of the glass surface between the two paraffin rings in sq. cm. by actual measurement with an accuracy of ± 2 per cent. Mark each glass disc for identification, and weigh each accurately in air at 25° C. (77° F.) and 50 per cent relative humidity. Coat the surface between the two paraffin rings on each disc with a thin uniform film of the original sample by applying between 0.5 and 1.0 ml. of the original sample of water-dispersion wax from a 1 ml. pipette and spreading it uniformly over the entire surface between the paraffin rings with the tip of the pipette. Dry the coated discs in a horizontal position in air at 25° C. (77° F.) and 50 per cent relative humidity for 24 hours, and weigh the discs again accurately under these conditions. Subtract the original weight and divide the difference in milligrams by the area of the wax film in sq. cm. to give the weight of coating in mg. per sq. cm. Abrade the coating on each disc, at 25° C. (77° F.) and 50 per cent relative humidity, on a Taber Abraser, Model J, using Taber CS-10 Calibrase wheels, until the coating has been worn away from approximately 50 per cent of the area of the abrasion track. Clean the wheels by ten cycles on the carborundum paper cleaning discs after each 100 cycles on the wax surface. Subtract the total number of cleaning cycles from the total number of cleaning and abrading cycles. Divide the number of abrasion cycles required for each disc by the weight of the dried coating in mg. per sq. cm. on that disc to give the wear resistance index.

12. *Tackiness and Slipperiness.* No satisfactory method has yet been developed.

13. *Water Resistance.* Prepare a test panel on cleaned new linoleum in the manner described under Levelling and Spreading. Place a large drop of distilled water, 1 to 2 cm. in diameter on the treated surface of the test panel. Allow to stand undisturbed for one hour in air at 25° C. (77° F.) and 50 per cent relative humidity. Shake off any remaining water. Observe whether the wax film is damaged or appreciably whitened by the water. Note whether any visible spotting of the film disappears on drying for ½ hour at 25° C. (77° F.) and 50 per cent relative humidity.

14. *Resistance to Damp Mopping.* Wet a clean soft cloth with clear water at 25° C. (77° F.). Wipe the entire treated surface of the test panel used in the Water Resistance test with this wet cloth, exerting moderate pressure and wiping five times at intervals of 2 seconds. Then wipe the test panel dry with a clean, soft, dry cloth. Observe whether the wax film is removed by this process.

15. *Removability.* Prepare a test panel on cleaned new linoleum in the same manner described under Leveling and Spreading. After aging panel for 48 hours, immerse it in detergent solution same as specified under Levelling and Spreading, for 5 minutes at a temperature of 50° C. (122° F.). Then, with a test panel still immersed, scrub its treated surface moderately with a soft bristle brush, making at least 10 strokes of the brush with moderate hand pressure across each portion of the treated surface. Remove the test panel from the detergent solution, rinse it thoroughly with clear water at 40°-50° C. (104°-122° F.), and wipe dry with a soft, clean cloth. Observe the panel for completeness of removal of wax film after drying.

Note 1. A saturated solution of calcium nitrate ($Ca(NO^3)^2.4H^2O$) at 25° C. (77° F.) gives 50 per cent relative humidity.

Soap and Detergent Definitions

American Society for Testing Materials Committee D-12 on Soaps and Other Detergents.

Tentative Definitions of

TERMS RELATING TO SOAPS AND OTHER DETERGENTS

A.S.T.M. Designation: D 459-45T

Issued, 1937; Revised 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946

Soap—The product formed by the saponification or neutralization of fats, oils, waxes, rosins, or their acids with organic or inorganic bases.

Note—Various descriptive adjectives are applied to the name soap to indicate certain characteristics as follows:

(a) Method of manufacture, for example, boiled soap, cold-process soap.
(b) Physical form, for example, bar soap, chip soap, liquid soap, powdered soap.
(c) A special property, for example, floating soap, low-titer soap, milled soap, soft soap.
(d) A particular ingredient, for example, grit soap, tar soap.
(e) A particular application, for example, automobile soap, dry-cleaning soap, salt-water soap.

Alkaline Detergent — A water-soluble alkali or alkaline salt having detergent properties, but containing no soap.

Anhydrous Soap—Soap, free from water and all other concomitants.

Note—The word "anhydrous" usually means free from water, but in the soap industry it has the additional meaning stated.

Anionic Detergent—A detergent which produces negatively charged colloidal ions in solution.

Blended Soap—(for example Blended Palm Oil Soap)—A soap in which more than half but not all the fatty acid stock is from the source stated.

Buffer Action—The resistance of a solution to change in pH.

Builder—A material added to soap or synthetic detergent to improve its effectiveness under the conditions of use.

Built Soap—A mixture of soap and one or more builders containing not less than 50 per cent of anhydrous soap.

Cationic Detergent—A detergent which produces positively charged colloidal ions in solution.

Cleaning—A process of removing undesirable matter.

Detergency—Effectiveness of cleaning.

Detergent—A composition which cleans.

Dispersing Agent — A material which increases the stability of a suspension of particles in a liquid medium.

Dry Cleaning—Cleaning fabrics in a substantially non-aqueous liquid medium.

Dry-Cleaning Detergent—(Dry-Cleaning Aid)—A detergent which when added to a dry-cleaning solvent increases cleaning effectiveness.

Emulsifying Agent—A material which increases the stability of a dispersion of one liquid in another.

Filler—A material added to a soap or other detergent which does not improve its attractiveness or its effectiveness under the conditions of use.

Non-Ionic Detergent — A detergent which produces electrically neutral colloidal particles in solution.

Penetrating Agent—A material which when added to a liquid medium increases the penetration of the medium into a porous material.

Scouring—A wet process of cleaning by chemical or mechanical means, or both.

Soap Powder—A mixture in powdered form of soap and one or more alkaline detergents, but principally composed of the latter.

Soil—Undesirable matter to be removed by cleaning.

Soil Redeposition — Deposition of removed soil on a surface during a cleaning process.

Straight Soap—(for example Straight Palm Oil Soap)—A soap in which the fatty acid stock is solely from the source stated.

Surface Active Agent — A material which when added to a liquid medium modifies the properties of the medium at a surface or interface.

Note—Surface Active Agent is the general term which includes soluble detergents in liquid medium, dispersing agents, emulsifying agents, foaming agents, penetrating agents and wetting agents.

Synthetic Detergent—A detergent produced by chemical synthesis and comprising an organic composition other than soap.

Titer (pron. te'ter) (of fatty acids)—The maximum temperature achieved during the solidification of fatty acids, which have been cooled below the melting point by a standardized procedure.

Washing—Cleaning in a liquid medium.

Water-Break — Failure of water to maintain a continuous film on metallic, vitreous or similar surfaces on withdrawing from clean water.

Wet Cleaning—A term used in the dry cleaning industry to denote cleaning in an aqueous medium.

Wetting Agent — A material which when added to a liquid medium increases the spreading of the medium on a surface.

Whiteness-Retention — Comparative whiteness or original and cleaned fabric.

SOAP PRICES MPR-391

(*Continued from Page* 187)

increased in weight over the product delivered or offered for current delivery during the thirty-day period ending July 17, 1942, provided no increase in the maximum price of the commodity is proposed.

§ 16 Form of application.

OPA Form No. 6922132
Budget Bureau No. 09-R1217
Approval expires 6-30-45

Application for Maximum Price of new or changed household soap or cleanser.

Under provisions of section 13 of MPR 391

Name of Company.....
Address—Street .....
City—State .....
Submitted by .....
Title ..... Date of application .....

Instructions: If your product was sold during the base period in a certain market area, and you now propose to market it in a new area, complete Part A of this form.

If your proposed product was not sold in any market area during the base period, or differs in weight or quantity from one sold by you in any market area during the same base period, complete Parts A and B of this form.

By the base period is meant the 30-day period ending July 17, 1942.

By classification is meant one of the following:
(1) Bar or cake toilet soaps.
(2) Bar laundry soaps.
(3) Package soaps.
(4) Washing powders.
(5) Cleansers and scouring powders.

Part A:

1. Brand name of product .....
2. Size, weight and classification of product (including anhydrous soap content) .....
3. Market area of sales in base period (if you sold the same product then) and maximum price .....
4. Classes of buyers or resellers of product .....
5. Proposed market area of sales .....
6. Name, sizes, weight and prices (including anhydrous soap content) of all other soap products of the same classification as the product you propose to market which you now offer for sale in the proposed market area.

Part B:

1. Raw material cost of new product.

Name of material (list)	Grade	Current cost per pound	Quantity used per case of units	Current cost per case of units

2. Packing material cost per case .....
3. Direct labor cost per case .....
4. Other factory expenses (includes only such items as power, depreciation, rent, plant maintenance and repair, etc. State on what basis you have computed these overhead costs. Do not include selling and administrative expense) .....
5. Total factory cost (Items 1, 2, 3, 4) .....
6. Estimated production per month (number of cases) .....
7. Proposed maximum manufacturing price (before cash discount)

Carload
L. C. L.

§ 17 Package soaps modified in accordance with War Food Order 42b. Until September 7, 1945 any manufacturer of a package soap who has replaced the anhydrous soap content thereof by builder to the minimum extent required by Amendment 6 to War Food Order 42b, as issued on July 23, 1945, may sell and deliver the package soap in the same market areas as he was permitted to sell and deliver it before the change in anhydrous soap content, and the maximum prices for each seller of such package soap shall remain the same as before the change in anhydrous soap content.

This section 17 shall not apply to any package soap in which the replacement of anhydrous soap content exceeds the minimum required by said Amendment 6.

[1] 9 F.R. 7070.

As suppliers of basic and specialized pyrethrum and rotenone materials to insecticide manufacturers, Dodge & Olcott, Inc. have been and will continue to be major producers of such well-known items as:

Pyrethrum Extract No. 20 – and higher
Purified Pyrethrum Extract 20%
Impregnated Pyrethrum Dust Concentrates
Pyrethrum Oleoresins
Pyrethrum Powders
Rotenone Powders (Cube and Derris)
Rotenone Resins (Cube and Derris)

Some new and extremely valuable materials based on our development of a new series of synthetic organic insecticides will be available as rapidly as permitted by production and by completion of thorough entomological and toxicological studies.

Dodge & Olcott, Inc.

INSECTICIDE DIVISION

60 East 42nd Street, New York 17, N. Y.

General Offices: 180 Varick St., New York 14, N. Y.

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4
C

Peet-Grady Method

Official Method of the National Assn. Insecticide & Disinfectant Mfrs. for Evaluating Liquid Household Insecticides.

I. INTRODUCTION

THE Peet-Grady Method was adopted as an official test in 1932, and has since been improved in certain details, all improvements have been officially accepted after satisfactory trials. This method of test is a means of determining the relative efficiency of contact insecticides dissolved in fly spray base oils. As a biological test it is subject to variations which accompany the reaction of living organisms and should be employed under the supervision of a person familiar with the biological testing of insecticides. In order to measure with reasonable tolerance the relative position of different insecticides, the test is designed to be used in conjunction with the "Official Test Insecticide" as the basis of comparison.

Two methods, or procedures, are permitted. The Small Group method is substantially the same as outlined at the time the test was adopted in 1932 while the Large Group method was officially adopted in 1938. Both methods are being used extensively, and if correctly employed, evaluation by either test may be expected to be in reasonable agreement.

II. APPARATUS

A. Reference Insecticide

The reference insecticide shall be the current Official Test Insecticide (OTI.) prepared by the National Association of Insecticide and Disinfectant Manufacturers, Inc. each year. The OTI must not be diluted or changed in any manner.

B. Atomizer

The Special Atomizer No. 5004, constructed by the DeVilbiss Company, Toledo, Ohio, for the N.A.I.D.M. Standardization Committee must be used. This atomizer shall be operated with air free of oil, dust particles, or condensed moisture, and maintained at a constant pressure of 12.5 ±0.5 per sq. in. measured by a gage of not more than 30 pounds capacity or a manometer. The atomizer shall deliver 12 cc. of OTI in 24 seconds (tolerance ±1 second) and this should be checked frequently. Atomizers failing to meet this test should be repaired by the manufacturer or replaced.

C. Test Insect

The test insect shall be the house fly (*Musca domestica*, L.) reared from a strain mixed under the supervision of the N.A.I.D.M. once each year. Healthy test groups having an average age of 4 days are to be used. Individual flies in the test groups shall be not less than 3 nor more than 6 days old at the time of testing. The strain shall be of such susceptibility that the OTI will cause a mortality of from 30 to 55 per cent.

D. Fly Cages

Cages of any convenient type may be used if they provide at least 1 cubic inch of space per fly and at least 2 sides and the top are screened. It is suggested that the base be square in shape to provide maximum floor space. The floor of the cage is preferably detachable, to facilitate cleaning and inserting a paper floor covering. The cages are constructed of wood or other suitable material and 16 mesh wire screening, and are fitted with a sleeve opening, rubber membrane, or a door.

E. Rearing Room

This room may be of any convenient size constructed so as to be free from strong drafts, and maintained at a temperature of 82 ±2 degrees Fahrenheit and relative humidity of 50 ±5 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odors and gases from fermenting media.

F. Testing Room

This room may be of any convenient size capable of holding the standard Peet-Grady Chamber and permitting adequate additional space for the operator to handle the test efficiently. While conducting tests, this room shall be maintained at a temperature of 75 to 85 degrees Fahrenheit. It is suggested that relative humidity be held between 40 and 70 per cent. Since the exhaust fan of the chamber will move relatively large quantities of air, the temperature of the air entering this room should be approximately that specified above.

G. Peet-Grady Test Chamber

The Test Chamber shall be rigidly constructed of wood, metal, or other suitable material. The inner surface shall be smooth, impervious to the usual household type of insecticide, and as free from cracks, projections, ledges, etc., as possible. The chamber shall be a 6-ft. cube by internal measurements, with a tolerance of plus or minus 1 in. for any dimension. One wall shall contain a tight-fitting door large enough for a man to enter conveniently, with the interior side flush with the wall when closed. One or more of the walls, or the ceiling, shall contain an observation window, preferably on two opposite walls. Illumination is provided by means of a glass window in the ceiling above which is

placed an electric light of such intensity as to permit flies to be observed easily. An opening covered with 10-mesh wire screen shall be connected to an exhaust fan duct and the size and the location of this opening in relation to ventilation openings in the wall must be such that thorough ventilation of the chamber is obtained. Preferably, the exhaust opening should be 1 sq. ft. or larger and located in or near the ceiling. Air inlet openings may be ports approximately 6 x 6 in. in size, covered with screen on the inside and provided with tight fitting hinged covers on the outside. Four ports located near the 4 lower corners, or 8 ports located near both the 4 upper and 4 lower corners are satisfactory, but the ventilation ports should not be on the same level as the exhaust port. The entrance door may be used alone or in conjunction with the ventilation ports if a screen door is provided and thorough ventilation of the chamber is obtained. If the temperature of the air used to ventilate the chamber is lower than 80° F., heaters may be used to obtain the temperature of 82 ±2° F. required during the test period. Such heaters must be removed before a test is started. Openings shall be provided for the introduction of the insecticide; these must be so constructed and so located that uniform distribution of the spray is effected without undue ventilation of the chamber. These openings may be round 1 in. holes located not less than 6 in. or more than 12 in. from the ceiling and 18 in. from the nearest corner on each wall, or a single hole may be provided in the center of each wall 6 to 12 inches from ceiling.

H. Exhaust Fan

An exhaust fan moving not less than 1,000 cu. ft. of air through the chamber per min. shall be used to ventilate the chamber after each test. It shall be arranged with adequate piping to exhaust the chamber vapors outside of the building.

I. Insecticide Paper

Unsized, non-glazed absorbent paper, such as brown kraft or gray bogus, shall be used to cover the chamber floor. Two overlapping sheets of 36-40 in. width or one sheet of 6 ft. width may be employed. No special weight is specified although 60-80 lb. gray bogus paper has been found excellent.

J. Apparatus for Picking Up Flies

Any convenient means of picking up the paralyzed flies without injuring or appreciably disturbing them may be used. If a vacuum device is used, it must produce gentle suction, have a sufficiently large receptacle to prevent crowding of the flies, and it shall be cleaned after each test with the same materials used in cleaning the chamber.

III. PROCEDURE

A. Rearing and Handling Flies

In this procedure, eggs are transferred to media suitable for the development of larvae, the pupae are collected from the media and placed inside of cages, and the adult flies emerge and remain in these cages until the day of testing.

Larval media: The preferred containers are cylindrical glass battery jars approximately 6 in. in diameter and 9 in. high. For one jar, mix 340 gm. (12 oz.) standard dry larval media, (1) with approximately 750 cc. of an aqueous suspension containing 15 gm. moist cake yeast and 10 cc. non-diastatic Diamalt, (2). Mix thoroughly until a loose, fluffy media is obtained, transfer it to the battery jar without packing, cover with cloth and set in the insectary. The amount of suspension required for best rearing results will need be determined in each laboratory and it may be varied in order to prevent mold growth. It is suggested the media be prepared in the late afternoon of the day before egg collection.

(1) Mixed quarterly according to NAIDM specifications by the Ralston Purina Co., St. Louis, Mo., on the basis of orders received by the first of January, April, July and October, in 50 lb. bags. Terms—pay on receipt of invoice.

(2) Standard Brands Inc. products. These can be obtained from local distributors in most cases.

Eggs: Eggs are collected for a period not longer than 16 hours from food dishes or other oviposition media in cages containing mature flies not more than 8 days old. It is suggested that fresh oviposition media be placed in fly cages in the late afternoon and eggs be collected early on the following morning. After collecting the eggs they must be measured and seeded without delay. Wash the eggs in tap water at room temperature and measure 2000 eggs as accurately as possible. This may be done by allowing the eggs to settle in a calibrated pipette or graduate (0.1 cc. settled eggs contains about 700) or the eggs can be filtered and measured in calibrated pits or cells. Use 10 cc. tap water to measure and to scatter the eggs in a ½ in. pit located in the center of the jar of larval media. Cover the eggs with loose media, replace the cloth covers on the jars, and set jars in the insectary so that at least 1.5 in. separates each jar to permit free air circulation. The maximum temperature in the jar (about 3 days later) must not exceed 130° F. Under normal conditions, more than 85 per cent of the eggs should hatch within 36 hours of the time they are laid.

Pupae: Mature larvae migrate to the top portion of the media and normally all larvae will have pupated by the seventh day after seeding eggs. When this occurs, the portion of media containing pupae is loosened, poured into a shallow tray, and air dried at room temperature. An electric fan may be used to hasten drying. Pupae are separated from the dry media by sprinkling the pupae-media mixture on an inclined tray or chute set in front of an air blast such as that from an electric fan. The pupae must be handled gently and as little as possible in order to avoid injury. Under normal conditions, at least 95 per cent of flies will emerge from the pupae.

The separated pupae are thoroughly mixed and weighed in

groups as test units and each group is placed in a shallow dish which is, in turn, placed in a cage which provides at least 1 cu. in. of space per pupae. If the large group procedure is used the test unit consists of approximately 500 pupae. If the small group procedure is used, more than 500 pupae are placed in stock cages and adult flies are sampled prior to testing.

Adult Flies: Each cage is supplied daily with a dish containing at least 15 cc. of a 50 per cent dilution of milk with water for each 100 flies and so prepared as to prevent the flies from drowning. A 40 per cent formalin solution at the rate of 1/1500 delays souring of milk for several hours. Satisfactory food must be available to the flies at all times. The series of test units is kept until the second day of oviposition (usually the 14th day after the culture was prepared) when they are ready for testing. Under normal rearing conditions, at least 80 adult flies should be otained from each 100 eggs seeded.

B. Testing Flies

Before a fly spray test is started, the Peet-Grady chamber must be clean and have clean paper on the floor, all ports and openings must be closed, the temperature must be 82 ±2° F., and all windows must be equally shaded. In both procedures, only flies which are capable of flying may be liberated into the Peet-Grady chamber. In the large group procedure all flies in one cage are used in a single test, but in the small group method a sample of 100 ±5 flies is used in each test. Samples may be taken by liberating the flies directly into the chamber and continuing until about 10 per cent of flies remain in the stock cage. These are discarded. Samples may be taken also by discarding the first 100 flies and then counting 50 flies into each of a series of small cages. One hundred flies are counted into the last cage and then, starting with the next to last cage and working backwards, 50 flies are added to each. Flies remaining in the stock cage are discarded. The order of spray treatments must be randomized as discussed in section IV, paragraph 6.

After liberating the flies in the chamber, a total of 12 cc. of insecticide shall be applied within one minute, at 12.5 lb. pressure, and in equal quantities through each spray hole. The nozzle of the atomizer shall be oscillated slowly in a horizontal plane to avoid spraying walls and ceilings and to effect uniform distribution of the spray. The chamber is kept closed at a constant temperature in the range of 82 ±2° F. for 10 min. from the time the spraying is started. At the end of 10 min. the ports are opened and the chamber is ventilated by means of the exhaust fan while the flies are collected.

The paralyzed flies are picked up and transferred immediately to clean cages meeting the specifications of section II, paragraph D. These flies may be counted when they are picked up or later, depending upon which time is most convenient. During the subsequent 24-hr. recovery period, the cage is placed in the rearing room and supplied with an adequate quantity of a 5 per cent sugar solution, arranged so that the top of the dish is not more than ¼ inch above the floor of the cage and flies cannot drown in it. A gauze-wrapped ball of cotton saturated with 5 per cent sugar solution is also satisfactory.

The unparalyzed flies in the chamber at the end of the 10-min. exposure period must be counted and discarded.

After a test is completed, all toxic residues must be removed from the chamber. The paper on the floor must be renewed and the inside walls and ceiling must be cleaned thoroughly. Wiping with a clean cloth saturated with alcohol containing 10 per cent acetone or washing with soap and water will remove a number of toxic residues. However, special cleaning precautions may be required after a test with a new chemical compound in order to remove its toxic residue.

C. Assembling the Data

The number of unparalyzed flies must be counted and recorded at the end of the 10-min. exposure period. The dead flies are counted 24 hrs. (±1 hr.) later, preferably by removing them from the recovery cage. Only flies that show no sign of life upon being touched may be counted as dead. If paralyzed flies were counted as they were collected, the sum of paralyzed and unparalyzed flies yields the total flies in the test. If paralyzed flies were not counted as collected, the recovered flies are killed by placing the cage in an oven at 170° F. for a few minutes, after which they are counted. The sum of recovered and dead flies yields the paralyzed flies and this sum added to the unparalyzed flies yields the total flies used in the test. The mortality is the per cent dead of total flies and the knockdown is the per cent paralyzed of total flies.

IV. CONDITIONS FOR OFFICIAL EVALUATION

1. The tests shall be conducted in accordance with the procedure previously described.
2. At least 2 cultures of flies shall be used in making an official evaluation.
3. Cages showing a combined mortality and crippling greater than 8 per cent on the day of test shall not be used.
4. An unknown insecticide to be officially rated shall have a knockdown percentage equal to that of the OTI with a tolerance of minus 2.
5. The kill by the OTI shall fall between 30 and 55 per cent in all tests. The toxicity of an unknown spray shall be reported by a grade letter, obtained by subtracting the average kill by the OTI from the average kill by the unknown spray and comparing this result with the following figures:

Grade Letter		*Kill Difference*
AA	:	+16 or greater
A	:	+6 to +15
B	:	+5 to —5

6. In the small group procedure no more than 2 unknown

samples may be tested in conjunction with one OTI in any one series. Ten tests are run on the OTI and on each of the unknowns in parallel; that is, test each spray the same number of times on flies of the same culture and test all sprays the same number of times on any one day. The samples of a series must be randomized in the order of testing. For example, number the samples and the OTI, and test them in the order 1, 2, 3; 2, 1, 3; 3, 2, 1, etc., until each has been tested ten times. After the mortality data are obtained, calculate the average kills and determine the difference between that of the unknowns and that of the OTI. In order for these differences to be valid, the standard error of the mean difference between the average OTI kill and the average unknown kill must be less than 3. If it is 3 or greater, the test results were too variable and to make the results valid, additional paired tests must be run to reduce the figure to a value less than 3. The following example illustrates the arrangement of test data and calculations described in the preceding paragraphs. When two unknown samples and the OTI are tested in series, the first table should consist of differences between Sample No. 1 and the OTI, the second table should show differences between Sample 2 and the O.T.I.

6. *Small Group Method*

Pair	Culture	Date	% Dead Sample 1	% Dead OTI	Difference[1]	Deviation[2]	Deviation Squared
1	C	3-8	58	50	+8	+4	16
2	C	8	62	55	+7	+3	9
3	C	8	60	54	+6	+2	4
4	C	8	52	52	+0	−4	16
5	C	8	49	46	+3	−1	1
6	E	9	61	54	+7	+3	9
7	E	9	46	49	−3	−7	49
8	E	9	53	51	+2	−2	4
9	E	9	57	54	+3	−1	1
10	E	9	53	46	+7	+3	9
			55. 1M	51. 1M	+4 MD	0	118 Sum d²

[1] Sample 1 kill minus OTI kill.
[2] Deviation from the mean difference (MD).
The mean difference (MD) between Sample 1 kill and the OTI kill is 4.0

$$\text{The standard error of MD} = \sqrt{\frac{\text{Sum } d^2}{n-1}} \Big/ \sqrt{n} = \sqrt{\frac{118}{9}} \Big/ \sqrt{10} = 1.14$$

1.14 is less than 3, thus indicating the test has been properly conducted. The letter n (in formula above) denotes the number of paired tests. This number is always 10 except when it is necessary to run additional tests to reduce the standard error of the mean difference to 3 or less.

The percentage kill of Sample 1 minus the percentage kill of OTI is +4, therefore, Sample 1 is a "B" grade insecticide.

7. *Large Group Method*

Cage No.	CULTURE E Nov. 21 Sample	% Dead	CULTURE F Nov. 23 Sample	% Dead
1	OTI	43	2	69
2	1	44	3	65
3	3	57	OTI	54
4	2	63	3	58
5	3	52	1	45
6	OTI	47	2	77
7	1	39	1	54
8	2	71	OTI	46

Sample	Mortalities	Average	Rating	Grade
OTI	43, 47, 54, 46	47.5		
1	44, 39, 45, 54	45.5	− 2.0	B
2	63, 71, 69, 77	70.0	+22.5	AA
3	57, 52, 65, 58	58.0	+10.5	A

7. In the Large Group procedure the evaluation is carried out as follows:

The evaluation is based on the difference in mortality of the OTI and the unknown as determined by a minimum of 4 tests. The order of testing shall be random and replicated OTI tests on any culture shall agree within 10 points. The following example illustrates one arrangement of testing, the computation of the test results, and the grading of the sprays.

Analysis of Technical DDT*

THE CHEMICAL EVALUATION OF TECHNICAL DDT BY DEHYDROCHLORINATION

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THE development of DDT as an insecticide for use by the armed forces and its prospective widespread use in many entomological applications after the war has focused attention on methods for its analysis. There are several methods being used at present which depend upon the determination of total organic chlorine in the sample, such as the Parr bomb, the Umhoefer method *(13)*, and the modification of the Winter method proposed by Hall, Schechter, and Fleck *(7)*. Colorimetric methods for the determination of DDT have been developed by Schechter, Soloway, Hayes, and Haller *(10, 11)*, by Stiff and Castillo *(12)*, and by Bailes and Payne *(1)*. A crystallization method for the determination of *p,p'*-DDT, (1-trichloro - 2,2 - bis(*p* - chlorophenyl) ethane) has been developed by Cristol, Hayes, and Haller *(2)*. In addition, a number of laboratories in the United States and in England have been using methods which depend upon the dehydrochlorination of DDT by means of alcoholic alkali based on the reaction described by Zeidler *(15)* and by Brand and Busse-Sunderman *(1a)*.

The work of Brand and Busse-Sunderman showed that various analogs of DDT have different rates of dehydrochlorination and that *p,p'*-DDT is completely dehydrochlorinated in two to three minutes upon refluxing with ethanolic alkali. Gunther *(6)*, in his method for estimating DDT by a dehydrochlorination procedure, presented data which show a recovery of *p,p'*-DDT, based on the liberation of 1 mole of hydrogen chloride per mole of DDT, of 100.2 per cent (average of seven runs on different amounts of DDT taken for analysis). Similar recovery data on technical DDT or on its other constituents, such as *o,p'*-DDT (1-trichloro-2-*o*-chlorophenyl-2-*p*-chlorophenylethane) are not given.

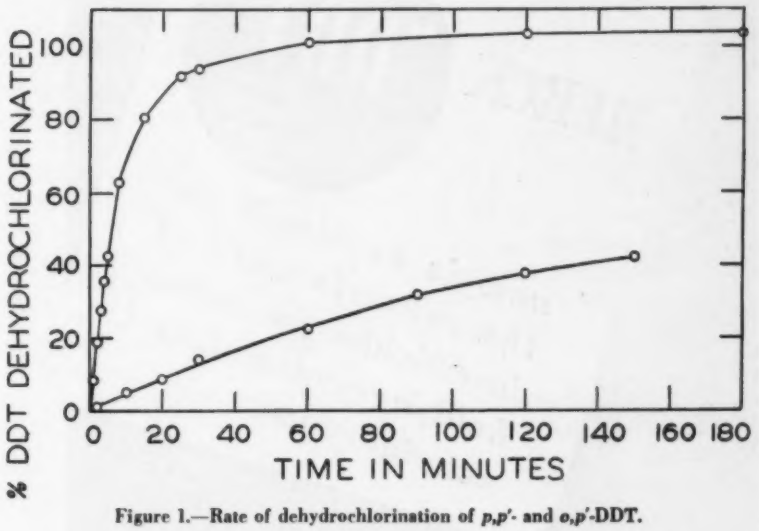


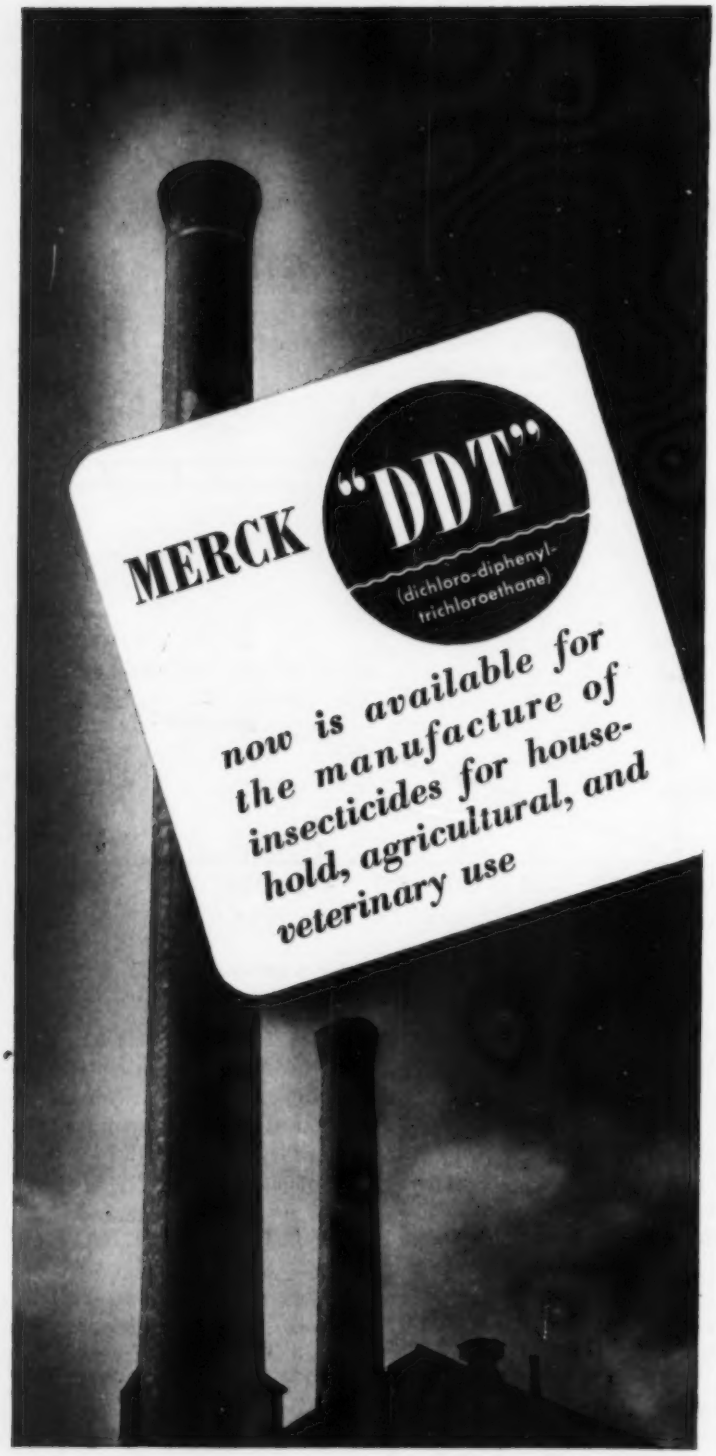
Figure 1.—Rate of dehydrochlorination of *p,p'*- and *o,p'*-DDT.

Since *p,p'*-DDT and *o,p'*-DDT are the two principal constituents of technical DDT *(8)*, occurring to the extent of 70-77 per cent of the former and 15-25 per cent of the latter (together with a number of minor constituents), their rates of dehydrochlorination by ethanolic alkali were examined. Martin and Wain *(9)* and Fleck and Haller *(4)* have suggested that the mode of action of DDT on insects occurs via the dehydrochlorination route. Consequently, the rate of dehydrochlorination may be an important factor in the toxicity of the DDT type of compounds.

Experimental

PROCEDURE 1. RATE OF DEHYDROCHLORINATION. Ten-ml. portions of 0.231 *N* ethanolic potassium hydroxide were pipetted into each of several flasks containing 50.0 ml. of a 0.0312 *N* ethanolic solution of *p,p'*-DDT and mixed thoroughly, the initial concentrations after mixing being 0.0385 *N* and 0.0260 *N*, respectively. The experiments were carried out at room temperature (about 30°). At the end of measured intervals of time the reaction was stopped by quickly adding 100 ml. of water and immediately titrating the unreacted alkali

* Part of this work was done under a transfer of funds from the Office of Scientific Research and Development to the Bureau of Entomology and Plant Quarantine as recommended by the Committee on Medical Research.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with 0.1 *N* hydrochloric acid. Data for *o,p'*-DDT were obtained under the same conditions. The results, plotted in Figure 1, show a marked difference in the rates of dehydrochlorination of the two isomers at room temperature. The curve for *p,p'*-DDT slightly exceeded 100% dehydrochlorination, possibly because of absorption of carbon dioxide; other experiments yielded values closer to 100%. Reaction-rate constants were calculated from these data on the assumption that the reaction is of the second order, and were found to be 3.6 liters per minute per mole at about 29° for *p,p'*-DDT and 0.07 liter per minute per mole at about 31° for *o,p'*-DDT. Accurate rate-constant measurements of this elimination reaction have been made by Cristol *(3)*, who has shown the reaction to be of the second order, that is, first order with respect to both halide and base.

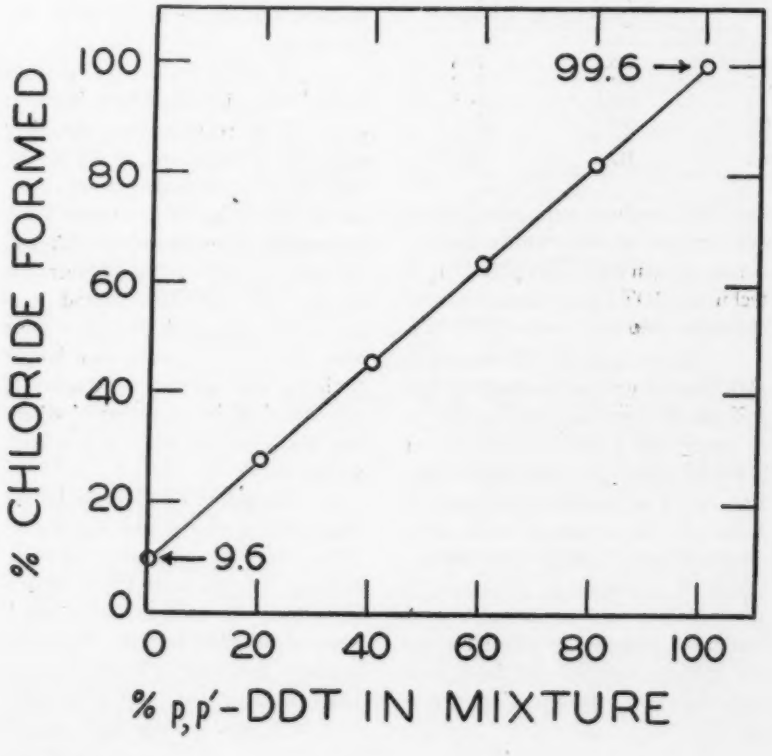
PROCEDURE 2. DEHYDROCHLORINATION OF MIXTURES OF *p,p'*- AND *o,p'*-DDT. The conditions of these experiments were chosen so that the reaction would be nearly pseudo-unimolecular by using a tenfold excess of base. Ten ml. of ethanolic sodium hydroxide (0.352 *N*) was pipetted into 25.0 ml. of an ethanolic solution (0.014 *N*) of both *p,p'*- and *o,p'*-DDT in a 250-ml. Erlenmeyer flask maintained in a thermostat at 20.11 ± 0.03°. The stock solutions were also kept at this temperature. The flask was removed from the thermostat, the solutions were mixed for a few seconds, and the flask was returned at once. The initial concentrations of DDT and base, after mixing, were 0.01 *N* and 0.1 *N*, respectively. At the end of 45 minutes, measured from the moment of complete addition of base, 25 ml. of 1.5 *N* nitric acid was added. The liberated chloride was determined by the usual Volhard procedure, using 0.1 *N* silver nitrate, nitrobenzene as coagulant, and 0.07 *N* ammonium thiocyanate for the back-titration.

The chloride liberated from mixtures of *p,p'*- and *o,p'*-DDT was determined similarly. The mixtures consisted of 5.0, 10.0, 15.0, and 20.0 ml. aliquots of the *p,p'*-DDT solution (0.014 *N*) plus 20.0, 15.0, 10.0, and 5.0 ml. aliquots of the *o,p'*-DDT solution (0.014 *N*), respectively. The mixed solutions were 0.01 *N* in total DDT after the addition of base. The results are plotted in Figure 2 as per cent of chloride formed, on the basis of 1 mole of chloride formed per mole of DDT, versus per cent composition. The closeness of the points for the mixtures to the straight line connecting the two end points permits the writing of the equation for the curve in terms of *p,p'*-DDT as

$$\% \; p,p'\text{-DDT} = \frac{\% \text{ Chloride formed} - 9.6}{0.9} \qquad (1)$$

Calculations from the second-order reaction equation, using the rate constants obtained by Cristol *(3)*, show that small variations in the time element (1 minute) and the concentrations of either base or halide (5 per cent) have inappreciable effects on the results of this procedure. Variations in temperature of even 0.1° do influence the results, but that variable is readily controlled.

Figure 2.—Analysis of mixtures of *p,p'*- and *o,p'*-DDT.



Comparison of Several Methods of Ethanolic Alkali Dehydrochlorination

METHOD A. About 0.1 g. of the sample was refluxed with 10.0 ml. of 0.1 *N* ethanolic potassium hydroxide for exactly 15 minutes. The solution was then acidified with 10 ml. of 2 *N* nitric acid and the chloride determined by the Volhard method.

METHOD B. Same as method A, except that the sample was first dissolved in 5 ml. of Skellysolve B (petroleum ether, b. p. 60-70° C.) before refluxing with 10.0 ml. of 0.1 *N* ethanolic potassium hydroxide for 15 minutes.

METHOD C. About 0.1 g. of the sample was dissolved in 5 ml. of Skellysolve B and mixed with 4.0 ml. of 0.5 *N* ethanolic potassium hydroxide. After the solution had been allowed to stand for exactly two hours at room temperature, it was acidified with dilute nitric acid and the chloride determined by the Volhard method.

METHOD D. Same as method C and similar to procedure 2, ex-

Table I. Comparison of the Per Cent Chloride Formed in Modifications of the Dehydrochlorination Method as Applied to the Analysis of DDT

Sample	*Method A*	*Method B*	*Method C*	*Method D*
p,p'-DDT	100.7	99.2	97.7	99.6
o,p'-DDT	112.6	63.4	46.5	20.2
Technical DDT:				
Sample 1	101.2	87.5	83.3	83.4
Sample 2	94.1	....	....	68.0
Sample 3	103.9	....	....	78.4
Sample 4	105.4	....	....	....

Table II. Comparison of the Per Cent Chloride Formed in Modifications of the Dehydrochlorination Method as Applied to the Analysis of By-products and Compounds Related to DDT

Sample	*Method A*	*Method D*
Byproduct oil from technical DDT:		
Sample 1	112	43.1
Sample 2	113	35.4
Minor constituents:		
1,1-Dichloro-2,2-bis(*p*-chlorophenyl)ethane	95.7*	78.6*
	106	87
Bis(*p*-chlorophenyl)sulfone	0	....
Chloral hydrate	...	4.5
Sodium *p*-chlorobenzenesulfonate	0	....
p-Chloro-α-(trichloromethyl)benzyl alcohol	176*	28.0*
	240	38.2
p-Chlorobenzenesulfonic acid, *o*-chloro-α-(trichloromethyl)benzyl ester	208*	5.6*
	158	4.4
Compounds related to DDT:		
1-Trichloro-2,2-diphenylethane	101*	18.5*
	125	23.0
1-Trichloro-2,2-bis(*p*-methoxyphenyl)ethane	...	6.3
1-Trichloro-2,2-di-*p*-tolylethane	...	6.4
1-Trichloro-2-*p*-chlorophenyl-2-phenylethane	111*	77.2*
	123	85.6
1-Trichloro-2,2-bis(*p*-bromophenyl)ethane	...	99.8*
	...	79.8

* Calculated on the basis of the molecular weight of the compound.

Table III. Comparative Results with Several Samples of Technical DDT and Byproduct Oil When Analyzed by Different Methods

Sample	*Procedure 2 Chloride Formed Per Cent*	*p,p'*-DDT *Per Cent*	*Ethanolic Alkali Reflux Chloride Formed Per Cent*	*Crystallization p,p'*-DDT *Per Cent*
Technical DDT:				
Sample 1	82.8	81.3	106.5	73.6
Sample 2	79.1	77.2	104.0	76.2
Sample 3	76.2	74.0	104.6	70.5
Sample 4	80.0	78.2	104.0	76.7
Sample 5	77.9	75.9	101.2	72.9
Byproduct oil	53.9	49.2	117.8	25.8

cept that 10.0 ml. of 0.1 *N* ethanolic potassium hydroxide was used.

Results

The results obtained from the analyses of a number of DDT samples, byproducts occurring in technical DDT, and compounds related to DDT are shown in tables I and II and are the average of at least two determinations. The results have been calculated to per cent chloride formed on the basis of the molecular weight of *p,p'*-DDT (354.5), on the assumption of 1 mole of chloride liberated per mole of compound, except for a few compounds in table II, which were also calculated on the basis of the actual molecular weight of the sample. The byproduct oils are the residues remaining upon evaporation of the mother liquors obtained from the recrystallization of technical DDT; they contain a considerable amount of *p,p'*-DDT *(2)*.

Five samples of technical DDT and one of technical DDT byproduct oil were analyzed according to procedure 2 and the per cent of *p,p'*-DDT was calculated from equation 1. The results are given in table III, in comparison with those obtained upon heating the solution, prepared according to procedure 2, under reflux on a steam bath for 30 minutes. Included in this table are the results obtained on these samples by the crystallization method *(2)*.

Discussion

When method D is used (Table I), *p,p'*-DDT eliminates hydrogen chloride quantitatively, while *o,p'*-DDT and all the byproducts tested yielded values much lower than the theoretical. With method A (refluxing with ethanolic alkali) *p,p'*-DDT gives practically quantitative dehydrochlorination, while *o,p'*-DDT and some of the byproducts liberate more than 1 mole of chloride per mole of compound.

It is evident from Tables I, II, and III that the determination of technical DDT by refluxing with alcoholic alkali gives results which are generally too high. The liberation under these conditions of more than 1 chlorine atom per molecule is negligible for *p,p'*-DDT, but is rather definite in the case of *o,p'*-DDT. It is probably due to further decomposition of the type described by White and Sweeney *(14)*. They obtained bis(*p*-chlorophenyl)acetic acid and 4,4'-dichlorodiphenylmethane upon refluxing either *p,p'*-DDT or dehydrochlorinated *p,p'*-DDT with barium hydroxide in ethylene glycol. Grummitt, Buck, and Stearns *(5)* obtained bis(*p*-chlorophenyl)acetic acid by the action of ethanolic potassium hydroxide at 150-160° for 24 hours.

In order to determine what action ethanolic alkali may have on *o,p'*-DDT at room temperature after complete elimination of hydrogen chloride, experiments were conducted according to procedure 2 using reaction periods of 48, 72, and 94 hours. At the end of 48 hours the amount of *o,p'*-DDT found was 100.9 per cent, and the same value was obtained for the two longer periods. This shows the absence of side reactions in the action of ethanolic alkali on *o,p'*-DDT at low temperatures.

Equation 1 holds for binary mixtures of *p,p'*- and *o,p'*-DDT. Since these are the principal constituents of technical DDT, procedure 2 may be used for an approximate estimation of the *p,p'*-DDT content. However, it is important to bear in mind that technical DDT

(*Turn to Page* 221)

Perfuming Material Specifications

Specifications and Standards Prepared By The Essential Oil Association for Oil Bois De Rose, Oil Petitgrain, Oil Spike Lavender and Hydroxycitronellal

BOOK OF SPECIFICATIONS & STANDARDS NOTES

Descriptive Characteristics: The statements concerning descriptive characteristics given in the individual monographs are not intended as standards or tests for purity.

Specific Gravity: Unless otherwise specified the figure $\frac{15^\circ\text{ C.}}{15^\circ\text{ C.}}$ is used as the basis for the specifications and standards that follow. A correction factor of .0007 must therefore be applied for each degree.

Optical Rotation: The figures given in the monographs are at room temperature approximately 20° C.

Refractive Index: The figures given are at room temperature approximately 20° C. unless otherwise specified.

Solubility: The figure given in the monographs are at 25° C. unless otherwise specified.

Mineral Oil: The mineral oil used in the solubility definition has a viscosity at 100° C. of $\frac{65}{75}$

Solvents: The solubility in fixed and volatile oils, and in such solvents as mineral oil, benzyl benzoate, glycerine and propylene glycol appearing in the monographs are listed, for the sake of uniformity, in alphabetical order.

Specifications and Standards for Oil Bois de Rose Brazilian

Other General Name

Oil Rosewood.

Botanical Nomenclature

1. Indefinite.
2. Possibly:

(a) ANIBA ROSAEODORA var. Amazonica (Ducke), Family: Lauraceae.

(b) ANIBA PARVIFLORA (Mez), Family: Lauraceae.

(c) OCOTEA CAUDATA (Mez.) (LICARIA GUIANENSIS) (Aubl.), Family: Lauraceae.

(d) PROTIUM (ICICA) ALTISSIMUM (March), Family: Burseraceae.

Preparation

By steam distillation of wood.

Physical and Chemical Constants

Specific Gravity @ 15°C.. 0.8750—0.8950
Optical Rotation ..... —4° to + 5°
Refractive Index @ 20°C. 1.4620—1.4685
Total Alcohols: ..... 84 to 92%

Proceed as directed for the determination of Linalool and oils containing Linalool. See Page C. Use approximately 1.2 gms. of acetylized oil accurately weighed for the subsequent saponification.

Solubility—Soluble in some dilution between 3.5 and 6 volumes of 60% alcohol and in 2 volumes of 70% alcohol.

Color and appearance—Pale yellow to yellow liquid.

Descriptive Characteristics

Stability:

Alkali: Relatively stable to alkali, although some change takes place.

Acids: In the presence of some organic acids esterfication of the alcohol takes place. In the presence of many strong inorganic acids, decomposition takes place. Degree of change depends upon conditions.

Solubility

Benzyl Benzoate: Generally soluble.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerine: Slightly soluble.

Mineral Oil: It is usually soluble in ½ volume of mineral oil, but sometimes becomes opalescent to turbid; when further additions of the solvent are made.

Propylene Glycol: Soluble in all proportions.

Containers

Should be shipped in glass, tin lined or aluminum containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in well stoppered full containers, in a cool place protected from light.

Specifications and Standards for Oil Petitgrain Paraguay

Other General Names

Oil Petitgrain South American.

Botanical Nomenclature

Citrus bigaradia, Risso.

Preparation

Obtained by steam distillation from the leaves and twigs of the bitter orange tree; at times the fruit adhering to the branches is distilled with it, indicated by a dextrorotation due to some peel oil.

Physical and Chemical Properties

Color: Yellowish to slightly brown.

Specific Gravity @ 15° C.: 0.885 to 0.895.

Optical Rotation: Mostly laevorotatory up to —3° sometimes dextrorotatory up to + 3°.

Solubility: Soluble at some dilution between 2 and 4 volumes of 70% alcohol; however, upon further dilution it frequently becomes opalescent or turbid.

Refractive Index @ 20° C.: 1.4580 to 1.4650.

Esters: 45% to 55% (occasionally as low as 40% and as high as 60%).

Proceed as directed for the determination of esters (see page A), using approximately 2 grams of the oil, accurately weighed. The number of cc. of 0.5 N alcoholic potassium hydroxide consumed in the saponification, multiplied by 0.0981, indicates the number of grams of esters, calculated as linalyl acetate, in the oil taken for assay.

Descriptive Characteristics

Stability:

Alkali: Unstable in alkalies due to the hydrolysis of some of the esters an the liberation of free linalool and other alcohols.

Acids: In the presence of some organic or inorganic acids a change is noted, degree of change depending upon conditions.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerine: Slightly soluble.

Mineral Oil: Usually soluble with opalescence or turbidity.

Propylene Glycol: Usually soluble with opalescence.

Containers

Should be shipped preferably in glass, tin-lined, or aluminum containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in well-stoppered, full containers, in a cool place protected from light.

Specifications and Standards for Oil Spike

Other General Names

Oil Lavender Spike.
Oil Lavender Spanish.
Oil Spanish Spike.
Oil Aspic.

Botanical Nomenclature

Lavandula latifolia, Vill. (Lavandula Spica D.C.), Family: LABIATAE.

Preparation

By steam distillation of the flowers.

Physical and Chemical Constants

Color and appearance: Oil Spike is a pale yellow to yellow liquid, having a camphoraceous, lavender-like odor.

Specific Gravity 15° C.: 0.900—0.915.

Optical Rotation:—5° to + 5°.

Refractive Index 20° C.: 1.4630 to 1.4680.

Esters as Bornyl Acetate: 1.5 to 3.0%.

Proceed as directed for the determination of esters, page A, using approximately 10 grams of Oil Spike, accurately weighed. The number of CC of half normal alcoholic potassium hydroxide consumed in the saponification, multiplied by 0.0981, indicates the number of grams of esters calculated as Bornyl Acetate (C_{10} H_{17} C_2 H_3 O_2) in the oil taken for assay.

Total Alcohols as Borneol: 30-40%.

Proceed as directed for the determination of total alcohols, Page B, using approximately 2.5 grams of the acetylized oil, accurately weighed, for the subsequent saponification. Calculate the per cent of total alcohols as Borneol by the following formula:

Per cent of Total Borneol (C_{10} H_{17} OH) in the oil tested

$$\frac{A \times 7.712}{B-(A \times 0.021)} \times [1-(E \times 0.0021)]$$

A is the result obtained by subtracting the number of CC of half normal sulphuric acid required in the titration from the number of CC of half normal alcoholic potassium hydroxide originally taken.

B is the weight of acetylized oil taken, and E is the per cent of esters calculated as Bornyl Acetate.

Solubility in Alcohol: Soluble in some dilution between 1 and 3 volumes of 70% alcohol, however, upon further dilution it frequently becomes hazy.

Descriptive Characteristics

Stability:

Alkali: Relatively stable to alkali, although some change takes place.

Acids: Fairly stable to weak acids.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerine: Slightly soluble.

Mineral Oil: Usually forms cloudy solutions.

Propylene Glycol: Soluble in all proportions.

Containers

Should be shipped preferably in glass, tin-lined or aluminum containers. Good quality galvanized containers are suitable when long storage is not contemplated.

Storage

Store preferably in well stoppered full containers, in a cool place protected from light.

Hydroxycitronellal

$C_{10}H_{20}O_2$ MOL. WT. 172.26

(Various other structures are suggested)

Preparation

Obtained by the hydration of citronellal. The basic citronellal used may be from any source such as the optically active variety from Java Citronella or the optically inactive variety from Eucalyptus Citriodora.

Physical and Chemical Constants

Color and appearance: Viscous colorless liquid having a sweet odor of the lily type.

Specific Gravity @ 15°: 0.925 to 0.930.

Optical Rotation: Depends upon the optical activity of the raw material. When prepared from the Java type + 9 to + 10.5; when prepared from Eucalyptus Citriodora type + 0.5 to — 0.5.

Refractive Index @ 20°: 1.448—1.450.

Hydroxycitronellal Content: Not less than 95%. (See page D.)

Assay — Hydroxycitronellal determination:

Proceed as directed in the hydroxylamine method for aldehydes, see page 221, using approximately 1.3 gm. of sample, accurately weighed. The difference in the cc of $\frac{N}{2}$ — HCL required for both titrations multiplied by 0.0861 indicates the weight in grams of Hydroxycitronellal in the sample taken for assay.

Solubility in Alcohol: Soluble in 1½ and more volumes of 50% alcohol. Soluble in all proportions of 60% alcohol.

Bisulfite Test for non-aldehydic impurities: Add 9 cc of NAH SO_3 solution* to .5 cc Hydroxycitronellal. Shake vigorously for one minute. Clear solution should be obtained (terpenes). Solution should have no minty odor (isopulegol).

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* (Bisulfite Solution—Prepare a fresh solution of 30% NAH SO_3 anhydrous by weight. To this add 4% of 10% NA_2CO_3 solution to cut down free SO_2. Solution to be filtered clear before use if necessary.)

Descriptive Characteristics

Stability:

Acids: Easily resinified by acids.

Alkali: Easily resinified by strong alkali.

Oxidation: Very readily oxidized by exposure to air.

Solubility:

Benzyl Benzoate: Soluble in all proportions.

Diethyl Phthalate: Soluble in all proportions.

Fixed Oils: Soluble in all proportions in most fixed oils.

Glycerine: Slightly soluble.

Mineral Oil: Slightly soluble.

Propylene glycol: Soluble in all proportions.

Water: Slightly soluble (approximately 5%).

Containers

Should be shipped preferably in glass, tin-lined or aluminum containers. Galvanized containers not recommended.

Storage

Store preferably in well-stoppered, full containers in a cool place protected from light.

Determination of Esters

Place the quantity of sample mentioned in each separate monograph, in a tared, 125-cc, Erlenmeyer flask, and weigh it accurately. Add 25-cc of half-normal alcoholic potassium hydroxide, connect the flask with a reflux condenser, and boil the mixture on a water bath for exactly one (1) hour, unless otherwise specified. Allow the mixture to cool, and titrate the excess of alkali with half normal sulfuric acid, using 10 drops of phenolphthalein T.S. as the indicator. Calculate as prescribed in each individual monograph.

Determination of Total Alcohols

Place 10-cc of the sample in an acetylization flask of 100-cc capacity and add 10-cc of acetic anhydride and 1 Gm. of anhydrous sodium acetate. Boil the mixture gently for exactly one (1) hour, cool, disconnect the flask from the condenser, transfer the mixture to a small separator, rinsing the acetylization flask with three successive, 5-cc portions of warm distilled water, and add the rinsings to the separator. When the liquids have completely separated, reject the aqueous layer, and wash the remaining oil with successive portions of sodium carbonate T.S., diluted with an equal volume of distilled water, until the last washing is alkaline to two (2) drops of phenolphthalein T.S.

Dry the resulting oil with anhydrous sodium sulfate and filter. Transfer the quantity of the dry acetylized oil mentioned in each separate monograph, to a tared, 100-cc, Erlenmeyer flask, note its exact weight, add 25-cc of half-normal alcoholic potassium hydroxide, connect the flask with a reflux condenser, and boil the mixture on a water bath for exactly one (1) hour.

Allow the mixture to cool, and titrate the excess of alkali with half-normal sulfuric acid using 10 drops of phenolphthalein T.S. as the indicator. Calculate the per cent of the total alcohols as outlined in each individual monograph.

Determination of Linalool

Dimethyl Aniline—Acetyl Chloride Method

10-cc of linalool or essential oil containing linalool, previously dried with sodium sulfate, is introduced into a 125-cc g.s. Erlenmeyer flask cooled with ice and water. To the cooled oil is added 20-cc dimethyl aniline (mono-methyl free) and the contents thoroughly mixed, then 8-cc acetyl chloride (reagent grade) and 5-cc of acetic anhydride are added, the anhydride serving as a solvent to prevent crystallization of the reaction mass. The

mixture is cooled for a few minutes and permitted to stand at room temperature for ½ hour after which time the flask is immersed in a water bath maintained at 40° C. ± 1° for three hours. At the end of this time the acetylated oil is washed three times with 75-cc of ice water, then with successive washes of 25-cc of 5% sulfuric acid until the separated acid layer fails to liberate any dimethyl aniline with an excess of caustic. After removal of the dimethyl aniline, the acetylated oil is washed with 10-cc of 10% sodium carbonate solution and then finally washed neutral with water.

The oil is separated, dried over anhydrous sodium sulfate and the ester value determined in the usual manner. The linalool content can thus be obtained directly from saponification tables or by substitution in the following formula:

$$\% \text{ Linalool} = \frac{\text{cc N/2 KOH} \times 154.14}{\text{20 (wt. sample—cc N/2 KOH} \times 0.021)}$$

As this test is further to be used for other oils containing Linalool, besides Linalool itself, a correction factor is necessary with oils containing significant amount of esters. For such oils, the following standard formula is recommended:

$$\% \text{ Total Linalool} = \frac{A \times 77.07 \times (1-(E \times .0021))}{B-(A \times 0.021)}$$

where A = cc half-normal alkali required for saponification.

where B = weight of sample.

where E = per cent of esters calculated as linalyl acetate in the original oil.

The test is not applicable to all teritary alcohols, but only to linalool and linalool containing oils.

Hydroxylamine Method for Aldehydes and Ketones

Preparation of Hydroxylamine solution: Triturate 0.1. Gm. of bromophenol blue with 3-cc of twentieth-normal sodium hydroxide. When solution is complete, dilute to 25-cc with distilled water. Dissolve 20 Gm. of hydroxylamine hydrochloride in 40-cc of distilled water, dilute to 400-cc with alcohol, add with stirring 300-cc of half-normal alcoholic potassium hydroxide and 2.5-cc of the bromophenol blue solution, and filter the mixture.

ASSAY METHOD: Add 75-cc of Hydroxylamine solution prepared as above to W gm. (see Note 1.) (accurately weighed of substance to be tested) and mix thoroughly.

For Aldehydes: Allow to stand at room temperature for 15 minutes.

For Ketones: Reflux gently for one hour using a water condenser or an air condenser at least 30 inches long. Cool to room temperature. (See Note 2.)

Titrate to the greenish-yellow end point of Bromophenol Blue using one-half normal hydrochloric acid. Perform a blank determination using 75-cc of the hydroxylamine solution. Subtract the number of cc of half-normal hydrochloric acid used in the titration of the sample from the number of cc used in the blank.

$$\% \text{ Aldehyde or Ketone} = \frac{N \times .05\ M}{W}$$

where N is difference in cc of 0.5 N HCL between blank and sample obtained above.

M is molecular weight of aldehyde or ketone in terms of which results are to be calculated.

W is weight of sample used.

Note 1: The weight of sample W should be such that the cc of Hydrochloric Acid required for the titration of the flask containing the sample is slightly more than half the cc required to titrate the blank. This weight W will be given under each individual monograph, based on the use of relatively fresh hydroxylamine solution which will give a blank titration of over 30-cc of one-half normal Hydrochloric Acid. The solution has a tendency to lose strength on standing more than about 10 days.

Note 2: Some aldehydes or ketones have been found to require longer standing or heating. In such cases the change will be noted under the individual monograph.

Note 3: The value of the factor .05 M in the above formula for calculation of percentage is given under the individual monographs.

ANALYSIS OF DDT

(*Continued from Page 218*)

contains a number of minor constituents, including an undefined, chlorine-containing oil, which can seriously affect the results. This type of interference is illustrated by the analyses of a byproduct oil from technical DDT (Table III), which show a large discrepancy between the estimate of *p,p'*-DDT by procedure 2 and the amount found by the crystallization method. Nevertheless, the even wider divergence in the per cent *p,p'*-DDT in this material obtained by the latter method and the calculated amount of *p,p'*-DDT obtained by refluxing with ethanolic alkali should be noted.

Haller, Bartlett, Drake, Newman, and coworkers *(8)* point out that some of the byproducts of technical DDT are active insecticides, although none of them are so toxic as *p,p'*-DDT. If entomological tests should show a correlation between the toxicity to insects and the rates of dehydrochlorination of the DDT type of compounds, then procedure 2, with i s carefully controlled conditions, would become a valuable means for evaluating technical DDT. In that case the figures for per cent chloride formed (Table III) could be used as a measure of the active ingredients of technical DDT.

Acknowledgement

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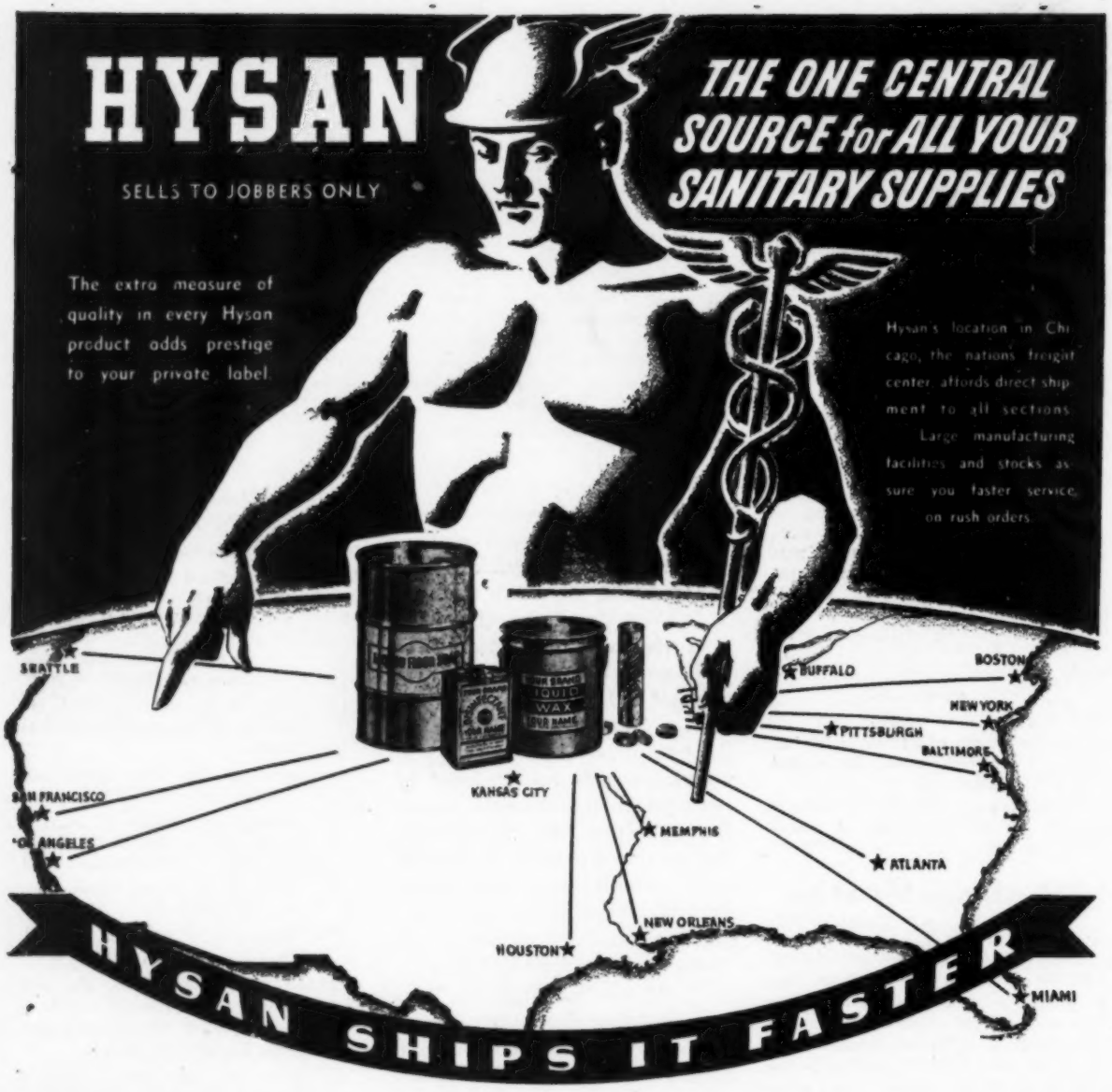

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APPROXIMATE CONSTANTS OF SOAP OILS

Oil or Fat	Sp. Gr. (Water at 15°)	Sap. No.	Iodine Value	Titer °C.	% Non-Sap.
Castor Oil	0.958—0.968	177—187	83— 86	3°—	0.3—0.5%
Coconut Oil	0.926	251—263	8— 10	20°—23°	0.2
Corn Oil	0.921—0.927	186—193	120—130	15°—19°	1.5—3.0%
Cottonseed Oil	0.915—0.926	191—196	103—115	32°—38°	0.7—1.6%
Linseed Oil	0.931—0.938	189—196	170—204	19°—21°	0.5—1.6%
Olive Oil Foots	0.914—0.919	189—195	79— 86	17°—21°	2.0—3.0%
Palm Oil	0.921—0.925	196—205	48— 58	42°—45°	0.7—1.0%
Palm Kernel Oil	0.873/99°	244—255	16— 23	20°—25°	0.2—0.5%
Peanut Oil	0.911—0.926	185—192	83— 95	28°—30°	0.5—1.0%
Sesame Oil	0.920—0.926	188—193	103—115	21°—24°	1.0—1.8%
Soya Bean Oil	0.922—0.925	191—194	125—140	21°—24°	0.3—0.6%
Tallow (beef)	0.943—0.952	193—200	35— 47	43°—45°	
Whale Oil	0.922—0.926	188—194	110—150	22°—24°	1.0—3.0%

FATTY ACIDS IN SOAP OILS

Glycerides of Acids	Coconut Oil	Corn Oil	Cottonseed Oil	Linseed Oil	Olive Oil	Palm Oil	Palm Kernel Oil	Peanut Oil	Sesame Oil	Soyabean Oil	Tallow	Whale Oil
Arachidic	—	0.4	0.6	—	0.2	—	—	3.6	4.0	0.7	—	—
Lignoceric	—	0.2	—	—	—	0.1	—	2.9	0.4	0.1	—	—
Linolenic	—	—	—	34.1	—	—	—	—	—	2.2	—	—
Linoleic	—	39.1	42.0	48.5	3.9	9.5	1.0	23.1	35.2	49.3	—	20.0
Myristic	20.0	—	0.4	—	Trace	0.6	16.0	--	—	—	2.0	8.0
Oleic	2.0	43.4	35.0	5.0	83.1	43.2	16.5	56.7	46.0	32.0	44.5	25.0
Palmitic	7.0	7.3	20.0	2.7	9.2	44.0	6.5	7.3	7.3	6.5	29.0	12.0
Palmitoleic	—	—	—	—	—	—	—	—	—	—	—	17.0
Stearic	5.0	3.3	2.0	5.4	2.0	2.9	1.0	5.5	4.4	4.2	24.5	—

Coconut oil also contains 10% Capric, 2% Caproic, 9% Caprylic and 45% Lauric. Palm Kernel Oil contains 6% Capric, 3% Caprylic and 50% Lauric. Whale Oil contains 18% Clupandonic.

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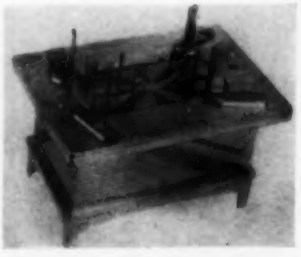

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